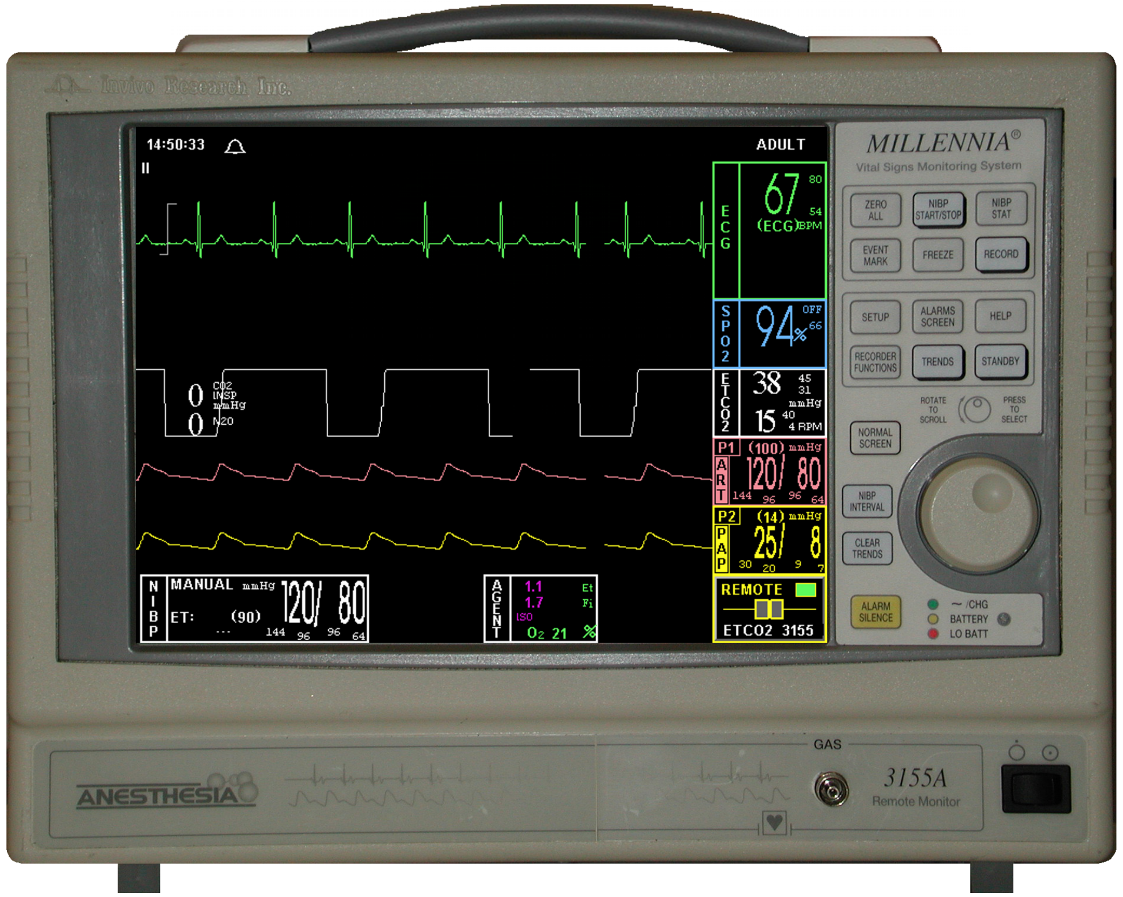
9546

Millennia® 3155MVS/3155A Monitor


MILLENNIA®
Vital Signs Monitoring System
ANESTHESIA
3155A
Remote Monitor
GAS

Service Manual

Volume II
Maintenance Drawings

INVIVO
RESEARCH, INC.

- INDEX -

Maintenance Drawings

NOTE

The Maintenance Drawings are listed by assembly number in ascending alphanumeric sequence. (System level drawings are presented as the first four drawings in this volume.)

Dwg. #	Rev	Used On*	P/N - Dwg. Title	Pg. #
190C057	C	3155MVS	3155MVS - Remote Display Controller Interconnect Diagram	1
190C062	D	3155A	3155A - Millennia Remote Monitor, Agents Interconnect Diagram	2
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197C598	N	3155A	3155A - Assembly, Millennia Remote Monitor, Agents	13
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C94C744	C	All	AB65A - Assembly, PCA, A/D	24
194D638	AA	All	AB65 - Assembly, PCA, A/D	25
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C94C650	G	All	AB68 - Assembly, PCA, Keyboard Interface	31
C85C186	C	All	AB68/B144 - Schematic, PCA, Keyboard Interface	32
194D651	AD	All	AB69 - Assembly, PCA, Power Supply	33
185C187	U	All	AB69/B145 - Schematic, PCA, Power Supply	35
194D680	K	All	AB69A - Assembly, PCA, Power Switcher/Battery Charger	38
185C197	E	All	AB69A/B145A - Schematic, PCA, Power Switcher/Battery Charger	39
194D652	AD	All	AB70 - Assembly, PCA, Multi-Function I/O	40
185C188	L	All	AB70/B146 - Schematic, PCA, Multi-Function I/O	41
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C85C206	A	All	AB72/B151 - Schematic, PCA, Power Interconnect	47
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185D193	J	All	AB77/B156 - Schematic, PCA, PCMCIA/VGA Display	49
C94C897	A	All	AB88 - Assembly, PC/AT Motherboard (with Microprocessor)	51
C94C692	H	3155A	AB93 - Assembly, PCA, Rear Panel Connectors	52
185C202	D	3155A	AB93/B165 - Schematic, PCA, Rear Panel Connectors	53
C94B711	J	All	AB97 - Assembly, PCA, Sharp 321 LCD Display, Cable Adapter	54
C85B209	C	All	AB97/B160 - Schematic, PCA, Sharp 321 LCD Display, Cable Adapter	55
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194C773	F	3155A	AB114 - Assembly, PCA, Agent Detector	58
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194D863	B	3155A	AB117A - Assembly, PCA, Pneumatics Controller	62
194D777	H	3155A	AB117 - Assembly, PCA, Pneumatics Controller	63
185C225	E	3155A	AB117/B186 - Schematic, PCA, Pneumatics Controller	64
C94C799	C	All	AB123 - Assembly, PCA, Power/Charger LED	67
C85B227	B	All	AB123/B187 - Schematic, PCA, Power/Charger LED	68
C94B883	B	All	AB153 - Assembly, Nonvolatile RAM Adapter	69
C85B250	B	All	AB153/B207 - Schematic, Nonvolatile RAM Adapter	70
C94C870	D	All	AB155 - Asssembly, PCA, Sound Generator Module	71
185C252	B	All	AB155/B209 - Schematic, PCA, Sound Generator Module	72
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C94C922	E	All	AB182 - Assembly, PCA, 2410 Radio Adapter	74
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C59C201	G	All	AC252 - Assembly, Cable, Active LCD Display	76
C59B202	E	All	AC261 - Assembly, Cable, Xentek Inverter/VGA	78
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C59B196	D	All	AC267 - Assembly, Cable, Battery	80
C59B198	B	All	AC269 - Assembly, Cable, Mother Board Power	81
C59B200	A	All	AC270 - Assembly, Cable, Front Power Switch	82
C59B322	A	All	AC329A - Assembly, Cable, Data Transceiver, Telemetry	83
C59B323	B	All	AC330A - Assembly, Cable, Transceiver, Telemetry	84
C59C339	E	All	AC348A - Assembly, Cable, Power Adapter	85
C59C340	B	All	AC349 - Assembly, Cable, Power - I/O	86
C59C341	C	All	AC350 - Assembly, Cable, Power Adapter LED	87
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Dwg. #	Rev	Used On*	P/N - Dwg. Title	Pg. #
C59C343	A	All	AC352 - Assembly, Cable, Negative DC Voltage	89
C59C344	B	All	AC354 - Assembly, Cable, Diode Power	90
C59B345	D	All	AC355 - Assembly, Cable, Low Voltage DC Power	91
C59B402	B	Com. Opt 1	AC355A - Assembly, Cable, Low Voltage DC Power	92
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C59B397	A	3155A	AC363A - Assembly, Cable, Agent A/D Interconnect	94
C94C862	B	3155A	AP49A - Assembly, Pump, Agents	95
C94C811	D	3155A	AP50 - Assembly, FiO2 Sensor Coupler	96
194B479	A	Volt Opt 1/4	AS18 - Assembly, 110V Line Cord	97
C94B639	0	Volt Opt 2	AS18G - Assembly, 10A, 220-230V Line Cord	98
194B480	A	Volt Opt 3	AS18A - Assembly, Universal 220V Power Cord Set	99
C94C689	J	Volt Opt 1-3	AS136 - Assembly, Mains/Input/Transformer	100
C94C848	A	Volt Opt 4	AS136J - Assembly, Mains/Input/Transformer	101
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C94C843	B	3155A	AS141A - Assembly, Exhaust Fan (Dual)	104
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C94B828	C	3155A	AS162 - Assembly, Agent Analyzer Heater	112
C94B850	A	All	AS167 - Assembly, Noise Filter	113
C94B852	E	3155A	AS168 - Assembly, Anesthetic O2 Sensor Adapter	114
C94C858	A	3155A	AS169 - Assembly, Shielded Inductor	115

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*Refer to System Dwgs. #197C540 and 197C598 for additional information on the monitor options listed in this column.

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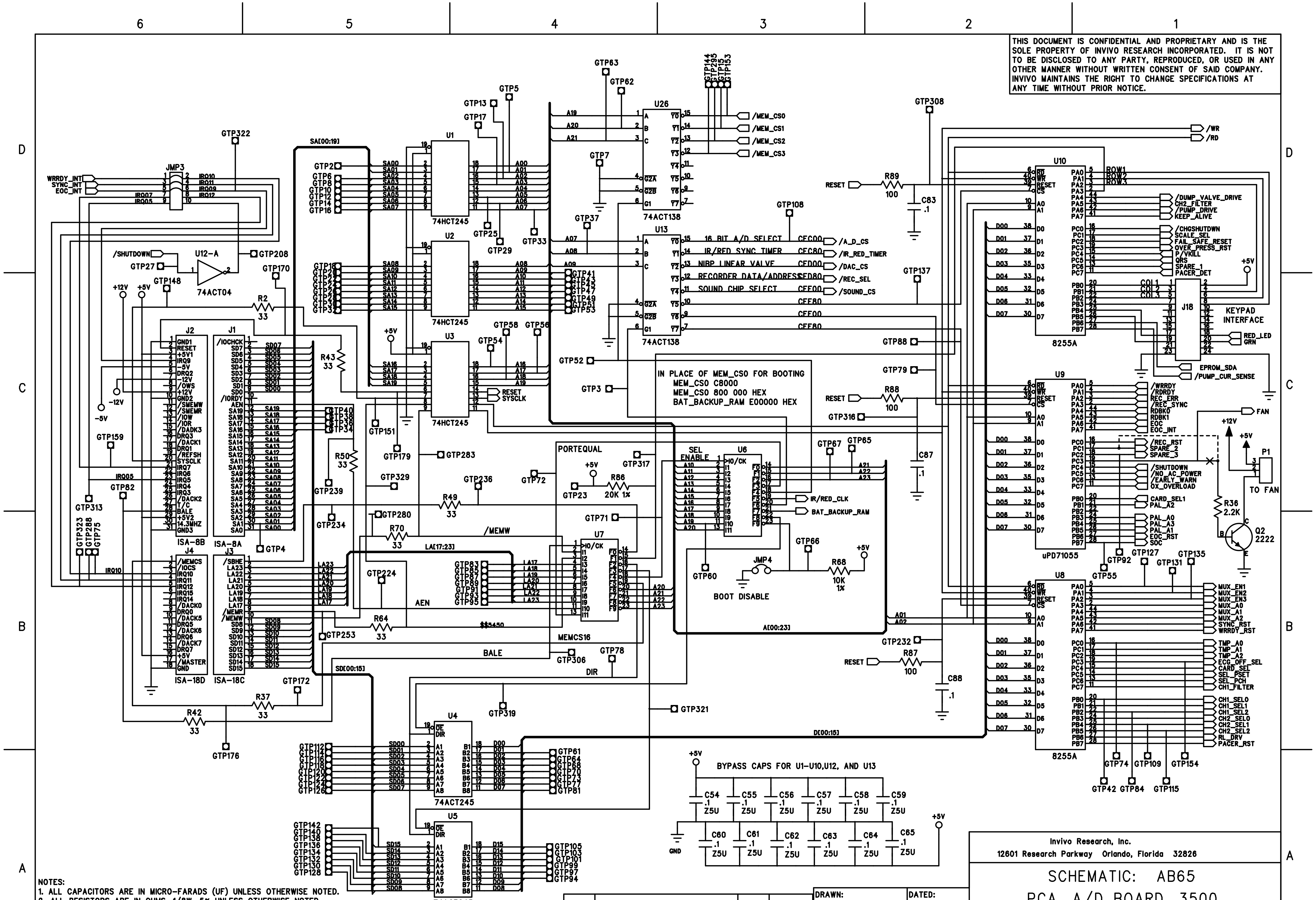

6
5
4
3
2
1
D
C
B
A
JMP3
WRRDY_INT
SYNC_INT
EOC_INT
IRQ10
IRQ11
IRQ09
IRQ12
IRQ07
IRQ05
GTP322
/SHUTDOWN
U12-A
74ACT04
GTP208
GTP27
GTP148
GTP170
+12V
+5V
-12V
-5V
R2 33
J2
ISA-8B
J1
ISA-8A
J4
ISA-18D
J3
ISA-18C
R43 33
R50 33
R42 33
R37 33
R64 33
R70 33
R49 33
GTP4
GTP176
GTP172
GTP253
GTP224
GTP234
GTP239
GTP280
GTP329
GTP283
GTP236
GTP179
GTP151
SA[00:19]
SD[00:15]
LA[17:23]
U1 74HCT245
U2 74HCT245
U3 74HCT245
U26 74ACT138
U13 74ACT138
/MEM_CS0
/MEM_CS1
/MEM_CS2
/MEM_CS3
16 BIT A/D SELECT CFC00 /A_D_CS
IR/RED SYNC TIMER CFC80 /IR_RED_TIMER
NIBP LINEAR VALVE CFD00 /DAC_CS
RECORDER DATA/ADDRESS CFD80 /REC_SEL
SOUND CHIP SELECT CFE00 /SOUND_CS
CFE80
CFF00
CFF80
IN PLACE OF MEM_CS0 FOR BOOTING
MEM_CS0 C8000
MEM_CS0 800 000 HEX
BAT_BACKUP_RAM E00000 HEX
RESET
SYSCLK
PORTEQUAL
R86 20K 1%
U6
SEL ENABLE
IR/RED_CLK
BAT_BACKUP_RAM
U7
/MEMW
AEN
$$5450
BALE
MEMCS16
DIR
JMP4
BOOT DISABLE
R68 10K 1%
A[00:23]
D[00:15]
U4 74ACT245
U5 74ACT245
GTP319
GTP321
GTP306
GTP78
U10 8255A
U9 uPD71055
U8 8255A
R89 100
R88 100
R87 100
C83 .1
C87 .1
C88 .1
/WR
/RD
ROW1
ROW2
ROW3
/DUMP_VALVE_DRIVE
CH2_FILTER
/PUMP_DRIVE
KEEP_ALIVE
/CHGSHUTDOWN
SCALE_SEL
FAIL_SAFE_RESET
OVER_PRESS_RST
P/VKILL
QRS
SPARE_1
PACER_DET
COL1
COL2
COL3
J18
KEYPAD INTERFACE
RED_LED
GRN
EPROM_SDA
/PUMP_CUR_SENSE
/WRRDY
/RDRDY
REC_ERR
/REC_SYNC
RDBK0
RDBK1
EOC
EOC_INT
/REC_RST
SPARE_2
SPARE_3
/SHUTDOWN
/NO_AC_POWER
/EARLY_WARN
OX_OVERLOAD
CARD_SEL1
PAL_A2
PAL_A0
PAL_A3
PAL_A1
EOC_RST
SOC
FAN
P1
TO FAN
R36 2.2K
Q2 2222
MUX_EN1
MUX_EN2
MUX_EN3
MUX_A0
MUX_A1
MUX_A2
SYNC_RST
WRRDY_RST
TMP_A0
TMP_A1
TMP_A2
ECG_OFF_SEL
CARD_SEL
SEL_PSET
SEL_PCH
CH1_FILTER
CH1_SEL0
CH1_SEL1
CH1_SEL2
CH2_SEL0
CH2_SEL1
CH2_SEL2
RL_DRV
PACER_RST
BYPASS CAPS FOR U1-U10,U12, AND U13
C54 .1 Z5U
C55 .1 Z5U
C56 .1 Z5U
C57 .1 Z5U
C58 .1 Z5U
C59 .1 Z5U
C60 .1 Z5U
C61 .1 Z5U
C62 .1 Z5U
C63 .1 Z5U
C64 .1 Z5U
C65 .1 Z5U
GND

NOTES:
1. ALL CAPACITORS ARE IN MICRO-FARADS (UF) UNLESS OTHERWISE NOTED.
2. ALL RESISTORS ARE IN OHMS, 1/8W, 5% UNLESS OTHERWISE NOTED.

REVISION HISTORY CONTINUED ON SHEET 2

REV.	DESCRIPTION	BY	DATE	REV.	DESCRIPTION	BY	DATE
				A	RELEASED ECN #4631	SLC	14DEC95
D	PER ECN #5039M	JRB	5/17/96	02	PROTOTYPE	SLN	15JUN95
C	PER ECN #4977	SLC	16APR96	01	PROTOTYPE	SLN	25APR95
B	PER ECN #4881	SLC	18MAR96	0	PROTOTYPE	SLN	18JAN95

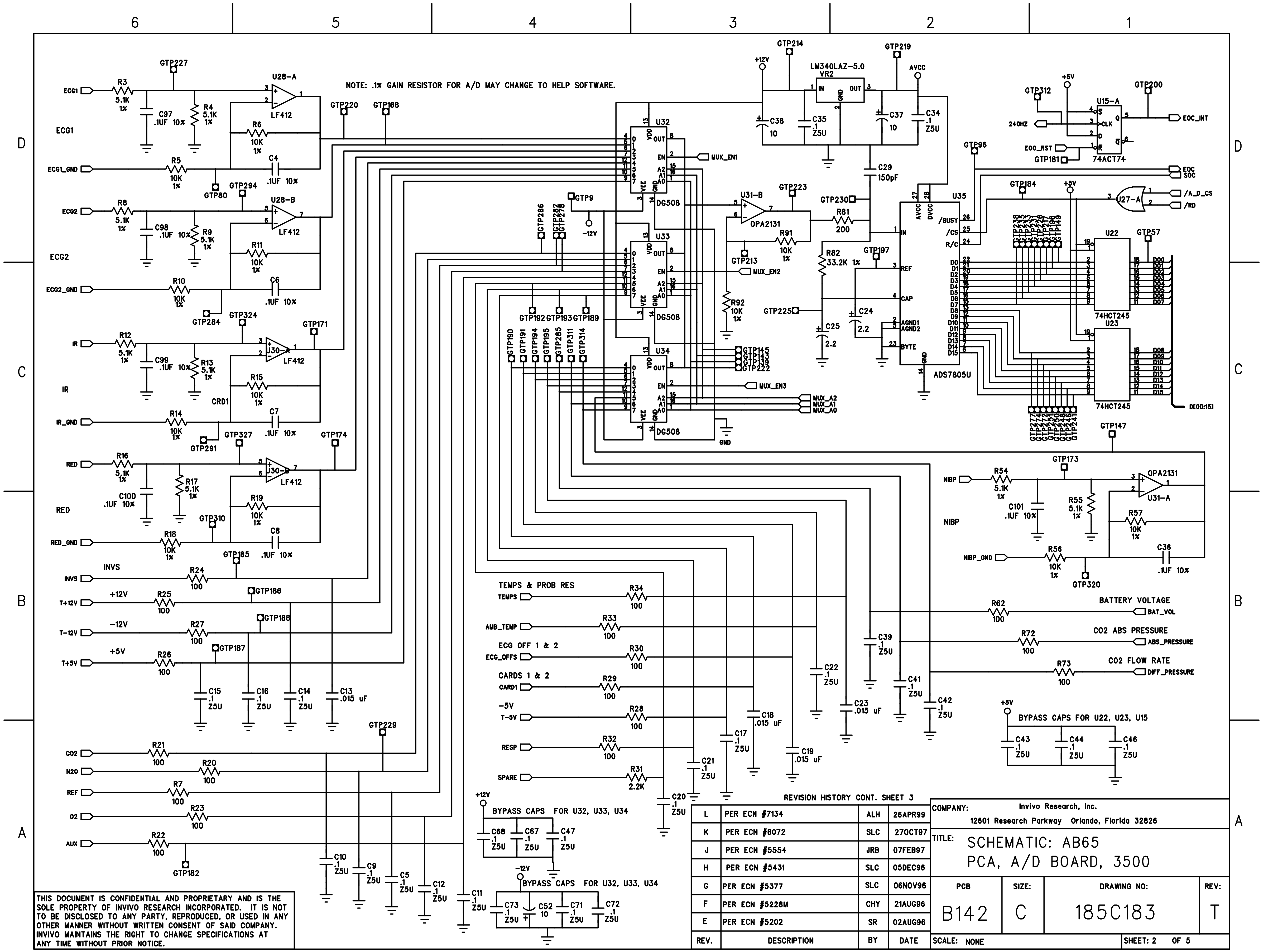
DRAWN: J. NABORS	DATED: 3/17/95
CHECKED:	DATED:
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

Invivo Research, Inc.
12601 Research Parkway Orlando, Florida 32826

SCHEMATIC: AB65
PCA, A/D BOARD, 3500

PCB	SIZE:	DRAWING NO:	REV:
B142	C	185C183	T

SCALE: NONE
SHEET: 1 OF 5


6
5
4
3
2
1
D
C
B
A
NOTE: .1% GAIN RESISTOR FOR A/D MAY CHANGE TO HELP SOFTWARE.
ECG1
R3 5.1K 1%
GTP227
C97 .1UF 10%
R4 5.1K 1%
U28-A
LF412
R6 10K 1%
C4 .1UF 10%
ECG1_GND
R5 10K 1%
GTP80
GTP294
ECG2
R8 5.1K 1%
C98 .1UF 10%
R9 5.1K 1%
U28-B
R11 10K 1%
C6 .1UF 10%
ECG2_GND
R10 10K 1%
GTP284
GTP324
IR
R12 5.1K 1%
C99 .1UF 10%
R13 5.1K 1%
U30-A
GTP171
R15 10K 1%
CRD1
C7 .1UF 10%
IR_GND
R14 10K 1%
GTP291
GTP327
GTP174
RED
R16 5.1K 1%
C100 .1UF 10%
R17 5.1K 1%
U30-B
R19 10K 1%
GTP310
C8 .1UF 10%
RED_GND
R18 10K 1%
GTP185
INVS
R24 100
GTP186
T+12V
+12V
R25 100
GTP188
T-12V
-12V
R27 100
GTP187
T+5V
+5V
R26 100
C15 .1 Z5U
C16 .1 Z5U
C14 .1 Z5U
C13 .015 uF
GTP229
CO2
R21 100
N2O
R20 100
REF
R7 100
O2
R23 100
AUX
R22 100
GTP182
C10 .1 Z5U
C9 .1 Z5U
C5 .1 Z5U
C12 .1 Z5U
C11 .1 Z5U
GTP220
GTP168
U32
DG508
VDD
OUT
EN
A2
A1
A0
VEE
GND
MUX_EN1
GTP9
-12V
GTP286
GTP282
GTP278
U33
DG508
MUX_EN2
GTP192
GTP193
GTP189
GTP190
GTP191
GTP194
GTP195
GTP285
GTP311
GTP314
U34
DG508
MUX_EN3
MUX_A2
MUX_A1
MUX_A0
GND
GTP145
GTP143
GTP138
GTP222
+12V
GTP214
LM340LAZ-5.0
VR2
IN
OUT
GND
GTP219
AVCC
C38 10
C35 .1 Z5U
C37 10
C34 .1 Z5U
C29 150pF
GTP223
U31-B
OPA2131
GTP230
R81 200
R91 10K 1%
GTP213
R92 10K 1%
R82 33.2K 1%
GTP197
GTP225
C25 2.2
C24 2.2
U35
ADS7805U
AVCC
DVCC
IN
/BUSY
/CS
R/C
REF
CAP
AGND1
AGND2
BYTE
GND
D0
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
D13
D14
D15
+5V
GTP312
240HZ
U15-A
74ACT74
S
CLK
D
R
Q
EOC_INT
GTP200
EOC_RST
GTP181
GTP96
EOC
SOC
GTP184
U27-A
/A_D_CS
/RD
GTP238
GTP235
GTP233
GTP231
GTP216
GTP217
GTP196
GTP149
U22
74HCT245
GTP57
D00
D01
D02
D03
D04
D05
D06
D07
U23
74HCT245
D08
D09
D10
D11
D12
D13
D14
D15
D[00:15]
GTP277
GTP272
GTP228
GTP215
GTP218
GTP243
GTP242
GTP241
GTP147
NIBP
R54 5.1K 1%
GTP173
C101 .1UF 10%
R55 5.1K 1%
OPA2131
U31-A
R57 10K 1%
NIBP_GND
R56 10K 1%
GTP320
C36 .1UF 10%
TEMPS & PROB RES
TEMPS
R34 100
AMB_TEMP
R33 100
ECG OFF 1 & 2
ECG_OFFS
R30 100
CARDS 1 & 2
CARD1
R29 100
-5V
T-5V
R28 100
RESP
R32 100
SPARE
R31 2.2K
C22 .1 Z5U
C39 .1 Z5U
C41 .1 Z5U
C42 .1 Z5U
C23 .015 uF
C18 .015 uF
C17 .1 Z5U
C19 .015 uF
C21 .1 Z5U
C20 .1 Z5U
BATTERY VOLTAGE
R62 100
BAT_VOL
CO2 ABS PRESSURE
R72 100
ABS_PRESSURE
CO2 FLOW RATE
R73 100
DIFF_PRESSURE
BYPASS CAPS FOR U22, U23, U15
C43 .1 Z5U
C44 .1 Z5U
C46 .1 Z5U
+12V
BYPASS CAPS FOR U32, U33, U34
C68 .1 Z5U
C67 .1 Z5U
C47 .1 Z5U
-12V
BYPASS CAPS FOR U32, U33, U34
C73 .1 Z5U
C52 10
C71 .1 Z5U
C72 .1 Z5U

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REVISION HISTORY CONT. SHEET 3

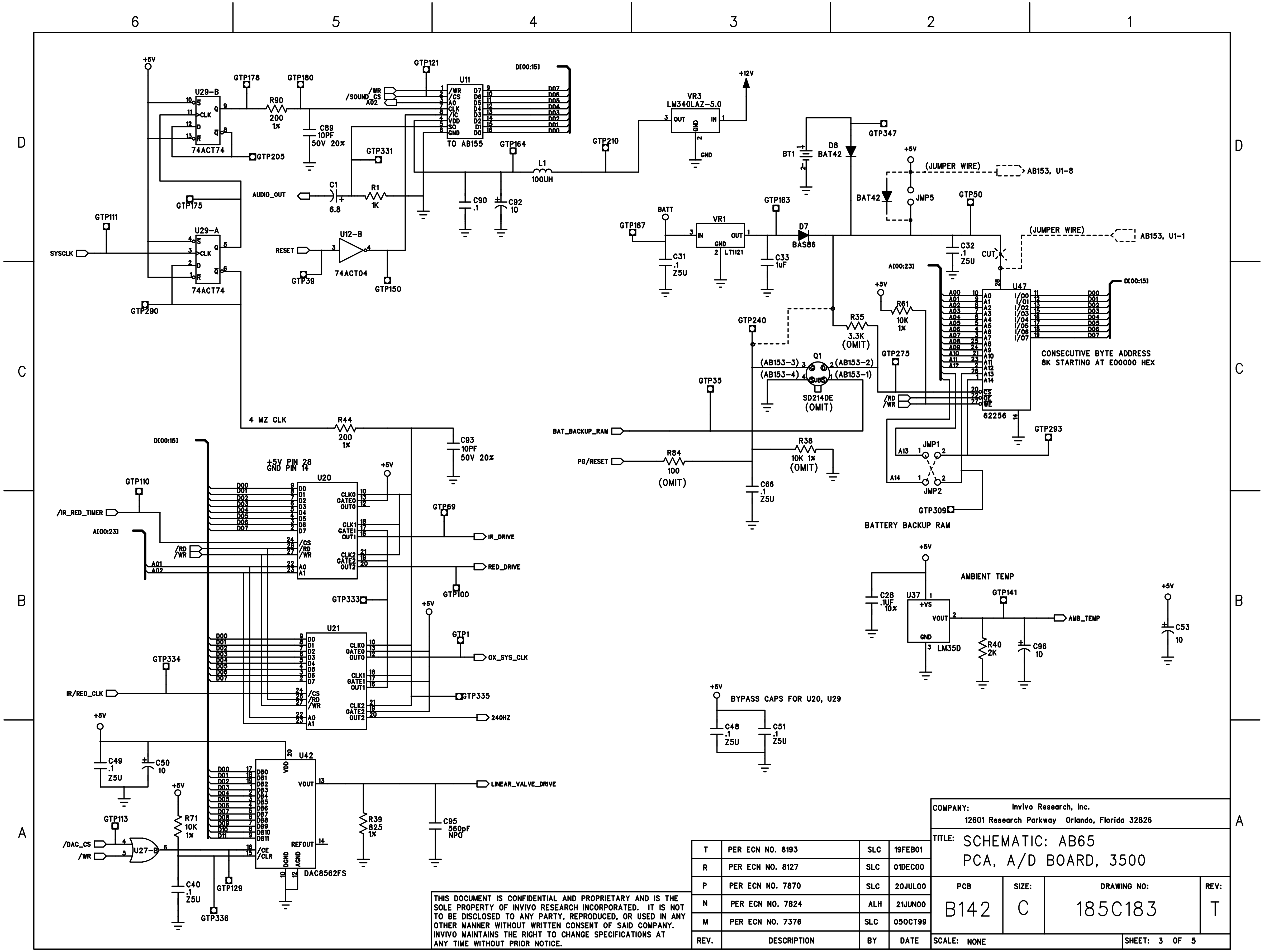
REV.	DESCRIPTION	BY	DATE
L	PER ECN #7134	ALH	26APR99
K	PER ECN #6072	SLC	27OCT97
J	PER ECN #5554	JRB	07FEB97
H	PER ECN #5431	SLC	05DEC96
G	PER ECN #5377	SLC	06NOV96
F	PER ECN #5228M	CHY	21AUG96
E	PER ECN #5202	SR	02AUG96

COMPANY: Invivo Research, Inc.
12601 Research Parkway Orlando, Florida 32826

TITLE: SCHEMATIC: AB65
PCA, A/D BOARD, 3500

PCB	SIZE:	DRAWING NO:	REV:
B142	C	185C183	T

SCALE: NONE
SHEET: 2 OF 5


6
5
4
3
2
1
D
C
B
A
+5V
GTP178
GTP180
U29-B
74ACT74
R90
200
1%
C89
10PF
50V 20%
GTP205
GTP121
/WR
/SOUND_CS
A02
U11
TO AB155
D[00:15]
D07
D06
D05
D04
D03
D02
D01
D00
GTP331
GTP164
L1
100UH
GTP210
VR3
LM340LAZ-5.0
+12V
GND
AUDIO_OUT
C1
6.8
R1
1K
C90
.1
C92
10
GTP175
GTP111
SYSCLK
U29-A
74ACT74
RESET
U12-B
74ACT04
GTP39
GTP150
GTP290
4 MZ CLK
R44
200
1%
C93
10PF
50V 20%
D[00:15]
+5V PIN 28
GND PIN 14
U20
GTP110
/IR_RED_TIMER
A[00:23]
/RD
/WR
A01
A02
GTP69
IR_DRIVE
RED_DRIVE
GTP100
GTP333
+5V
U21
GTP1
OX_SYS_CLK
GTP334
IR/RED_CLK
GTP335
240HZ
+5V
C49
.1
Z5U
C50
10
U42
DAC8562FS
LINEAR_VALVE_DRIVE
R39
825
1%
C95
560pF
NPO
+5V
R71
10K
1%
GTP113
/DAC_CS
/WR
U27-B
C40
.1
Z5U
GTP129
GTP336
BT1
D8
BAT42
GTP347
+5V
(JUMPER WIRE)
AB153, U1-8
BAT42
JMP5
GTP50
BATT
GTP167
VR1
LT1121
C31
.1
Z5U
GTP163
C33
1uF
D7
BAS86
C32
.1
Z5U
CUT
(JUMPER WIRE)
AB153, U1-1
A[00:23]
+5V
R61
10K
1%
R35
3.3K
(OMIT)
U47
62256
D[00:15]
CONSECUTIVE BYTE ADDRESS
8K STARTING AT E00000 HEX
GTP240
Q1
SD214DE
(OMIT)
(AB153-3)
(AB153-4)
(AB153-2)
(AB153-1)
GTP275
GTP35
/RD
/WR
BAT_BACKUP_RAM
PG/RESET
R84
100
(OMIT)
R38
10K 1%
(OMIT)
C66
.1
Z5U
JMP1
JMP2
A13
A14
GTP293
GTP309
BATTERY BACKUP RAM
+5V
AMBIENT TEMP
C28
.1UF
10%
U37
LM35D
GTP141
AMB_TEMP
R40
2K
C96
10
+5V
C53
10
+5V
BYPASS CAPS FOR U20, U29
C48
.1
Z5U
C51
.1
Z5U

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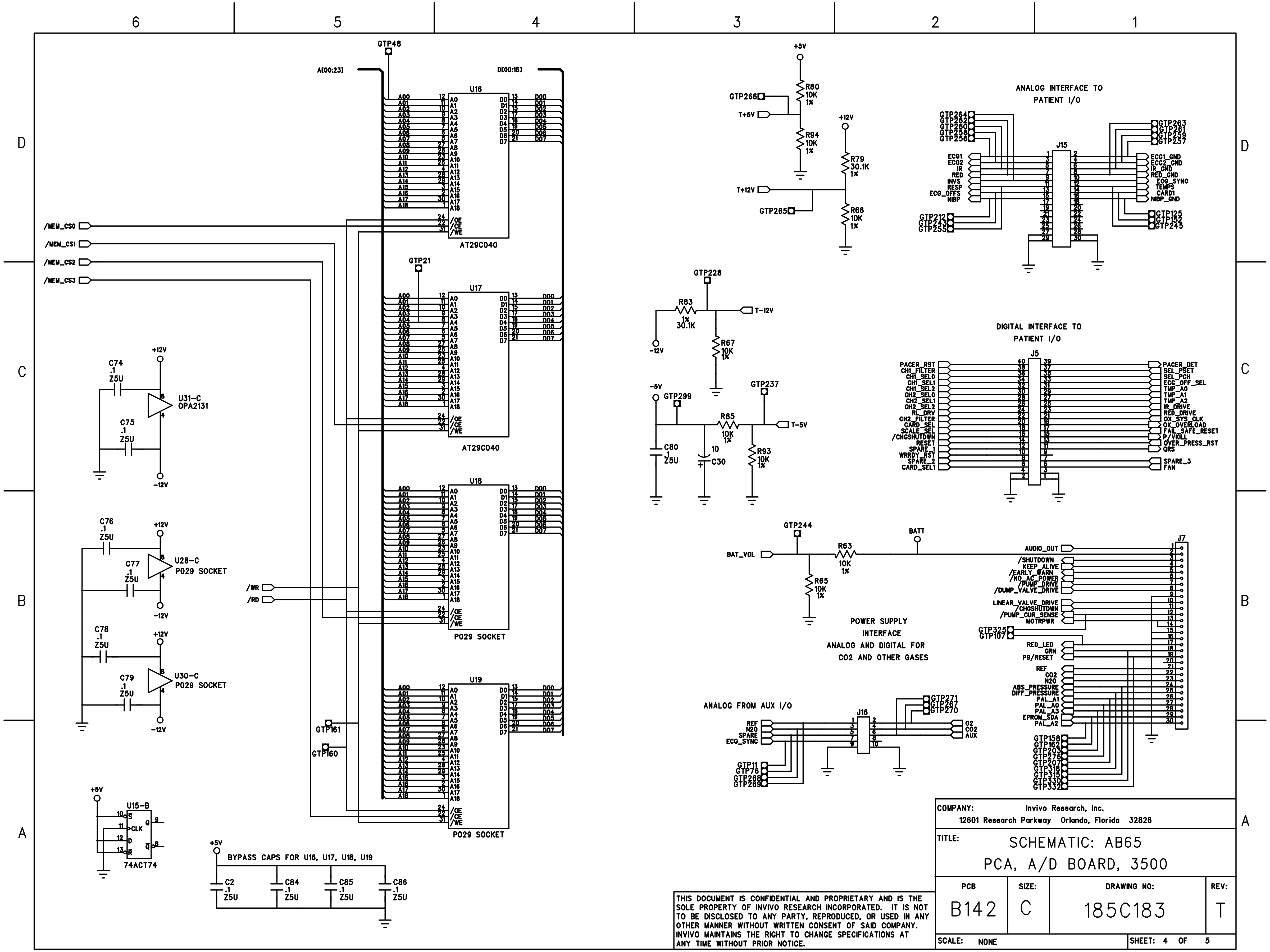
REV.	DESCRIPTION	BY	DATE
T	PER ECN NO. 8193	SLC	19FEB01
R	PER ECN NO. 8127	SLC	01DEC00
P	PER ECN NO. 7870	SLC	20JUL00
N	PER ECN NO. 7824	ALH	21JUN00
M	PER ECN NO. 7376	SLC	05OCT99

COMPANY: Invivo Research, Inc.
12601 Research Parkway Orlando, Florida 32826

TITLE: SCHEMATIC: AB65
PCA, A/D BOARD, 3500

PCB	SIZE:	DRAWING NO:	REV:
B142	C	185C183	T

SCALE: NONE
SHEET: 3 OF 5


6
5
4
3
2
1
D
C
B
A
GTP48
A[00:23]
D[00:15]
U16
AT29C040
U17
AT29C040
U18
P029 SOCKET
U19
P029 SOCKET
GTP21
/MEM_CS0
/MEM_CS1
/MEM_CS2
/MEM_CS3
/OE
/CE
/WE
/WR
/RD
GTP161
GTP160
C74 .1 Z5U
C75 .1 Z5U
U31-C OPA2131
C76 .1 Z5U
C77 .1 Z5U
U28-C P029 SOCKET
C78 .1 Z5U
C79 .1 Z5U
U30-C P029 SOCKET
+12V
-12V
+5V
U15-B
74ACT74
S
CLK
D
R
Q
BYPASS CAPS FOR U16, U17, U18, U19
C2 .1 Z5U
C84 .1 Z5U
C85 .1 Z5U
C86 .1 Z5U
R80 10K 1%
GTP266
T+5V
R94 10K 1%
R79 30.1K 1%
T+12V
GTP265
R66 10K 1%
GTP228
R83 1% 30.1K
T-12V
R67 10K 1%
-5V
GTP299
GTP237
R85 10K 1%
T-5V
C80 .1 Z5U
10 C30
R93 10K 1%
GTP244
BAT_VOL
R63 10K 1%
BATT
R65 10K 1%
ANALOG INTERFACE TO PATIENT I/O
J15
GTP264
GTP262
GTP260
GTP258
GTP256
GTP263
GTP261
GTP259
GTP257
ECG1
ECG2
IR
RED
INVS
RESP
ECG_OFFS
NIBP
ECG1_GND
ECG2_GND
IR_GND
RED_GND
ECG_SYNC
TEMPS
CARD1
NIBP_GND
GTP212
GTP243
GTP255
GTP125
GTP152
GTP245
DIGITAL INTERFACE TO PATIENT I/O
J5
PACER_RST
CH1_FILTER
CH1_SEL0
CH1_SEL1
CH1_SEL2
CH2_SEL0
CH2_SEL1
CH2_SEL2
IR_DRV
CH2_FILTER
CARD_SEL
SCALE_SEL
/CHGSHUTDWN
RESET
SPARE_1
WRRDY_RST
SPARE_2
CARD_SEL1
PACER_DET
SEL_PSET
SEL_PCH
ECG_OFF_SEL
TMP_A0
TMP_A1
TMP_A2
IR_DRIVE
RED_DRIVE
OX_SYS_CLK
OX_OVERLOAD
FAIL_SAFE_RESET
P/VKILL
OVER_PRESS_RST
QRS
SPARE_3
FAN
J7
AUDIO_OUT
/SHUTDOWN
KEEP_ALIVE
/EARLY_WARN
/NO_AC_POWER
/PUMP_DRIVE
/DUMP_VALVE_DRIVE
LINEAR_VALVE_DRIVE
/CHGSHUTDWN
/PUMP_CUR_SENSE
MOTRPWR
GTP325
GTP107
RED_LED
GRN
PG/RESET
REF
CO2
N2O
ABS_PRESSURE
DIFF_PRESSURE
PAL_A1
PAL_A0
PAL_A3
EPROM_SDA
PAL_A2
GTP158
GTP162
GTP203
GTP276
GTP207
GTP318
GTP315
GTP330
GTP332
POWER SUPPLY INTERFACE ANALOG AND DIGITAL FOR CO2 AND OTHER GASES
ANALOG FROM AUX I/O
J16
REF
N2O
SPARE
ECG_SYNC
O2
CO2
AUX
GTP271
GTP267
GTP270
GTP11
GTP76
GTP268
GTP269

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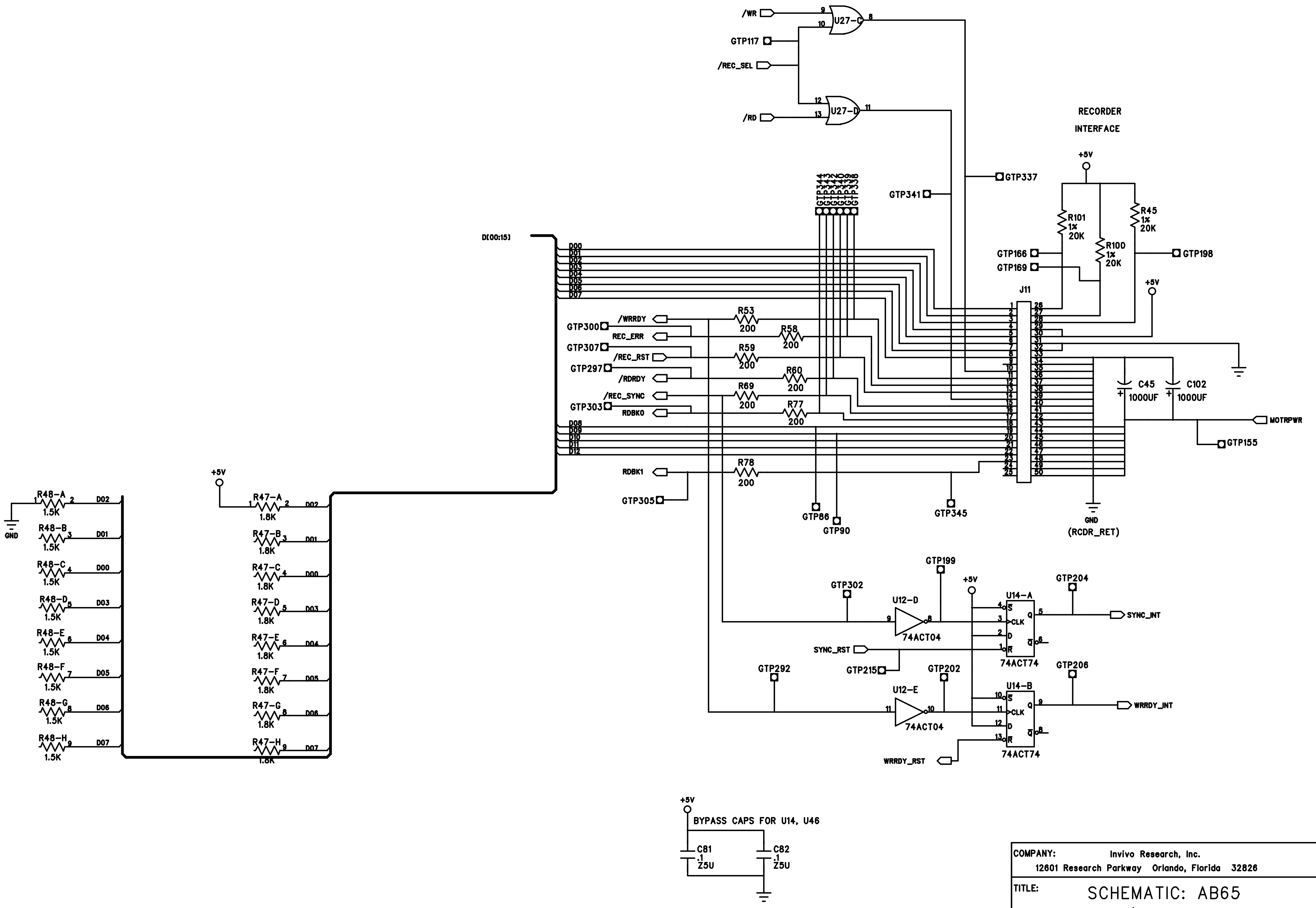
COMPANY: Invivo Research, Inc.
12601 Research Parkway Orlando, Florida 32826

TITLE: SCHEMATIC: AB65
PCA, A/D BOARD, 3500

PCB	SIZE:	DRAWING NO:	REV:
B142	C	185C183	T

SCALE: NONE
SHEET: 4 OF 5


/WR
U27-C
GTP117
/REC_SEL
/RD
U27-D
RECORDER
INTERFACE
+5V
GTP337
GTP341
GTP344
GTP343
GTP342
GTP340
GTP339
GTP338
R101 1% 20K
R100 1% 20K
R45 1% 20K
GTP166
GTP169
GTP198
J11
D[00:15]
D00
D01
D02
D03
D04
D05
D06
D07
GTP300
/WRRDY
R53 200
REC_ERR
R58 200
GTP307
/REC_RST
R59 200
GTP297
/RDRDY
R60 200
/REC_SYNC
R69 200
GTP303
RDBK0
R77 200
D08
D09
D10
D11
D12
C45 1000UF
C102 1000UF
MOTRPWR
GTP155
RDBK1
R78 200
GTP305
GTP86
GTP90
GTP345
GND
(RCDR_RET)
R48-A 1.5K
R48-B 1.5K
R48-C 1.5K
R48-D 1.5K
R48-E 1.5K
R48-F 1.5K
R48-G 1.5K
R48-H 1.5K
GND
R47-A 1.8K
R47-B 1.8K
R47-C 1.8K
R47-D 1.8K
R47-E 1.8K
R47-F 1.8K
R47-G 1.8K
R47-H 1.8K
GTP199
GTP302
U12-D
74ACT04
U14-A
74ACT74
GTP204
SYNC_INT
SYNC_RST
GTP215
GTP292
GTP202
U12-E
74ACT04
U14-B
74ACT74
GTP206
WRRDY_INT
WRRDY_RST
BYPASS CAPS FOR U14, U46
C81 .1 Z5U
C82 .1 Z5U

COMPANY: Invivo Research, Inc.
12601 Research Parkway Orlando, Florida 32826

TITLE: SCHEMATIC: AB65
PCA, A/D BOARD, 3500

PCB	SIZE:	DRAWING NO:	REV:
B142	C	185C183	T

SCALE: NONE
SHEET: 5 OF 5

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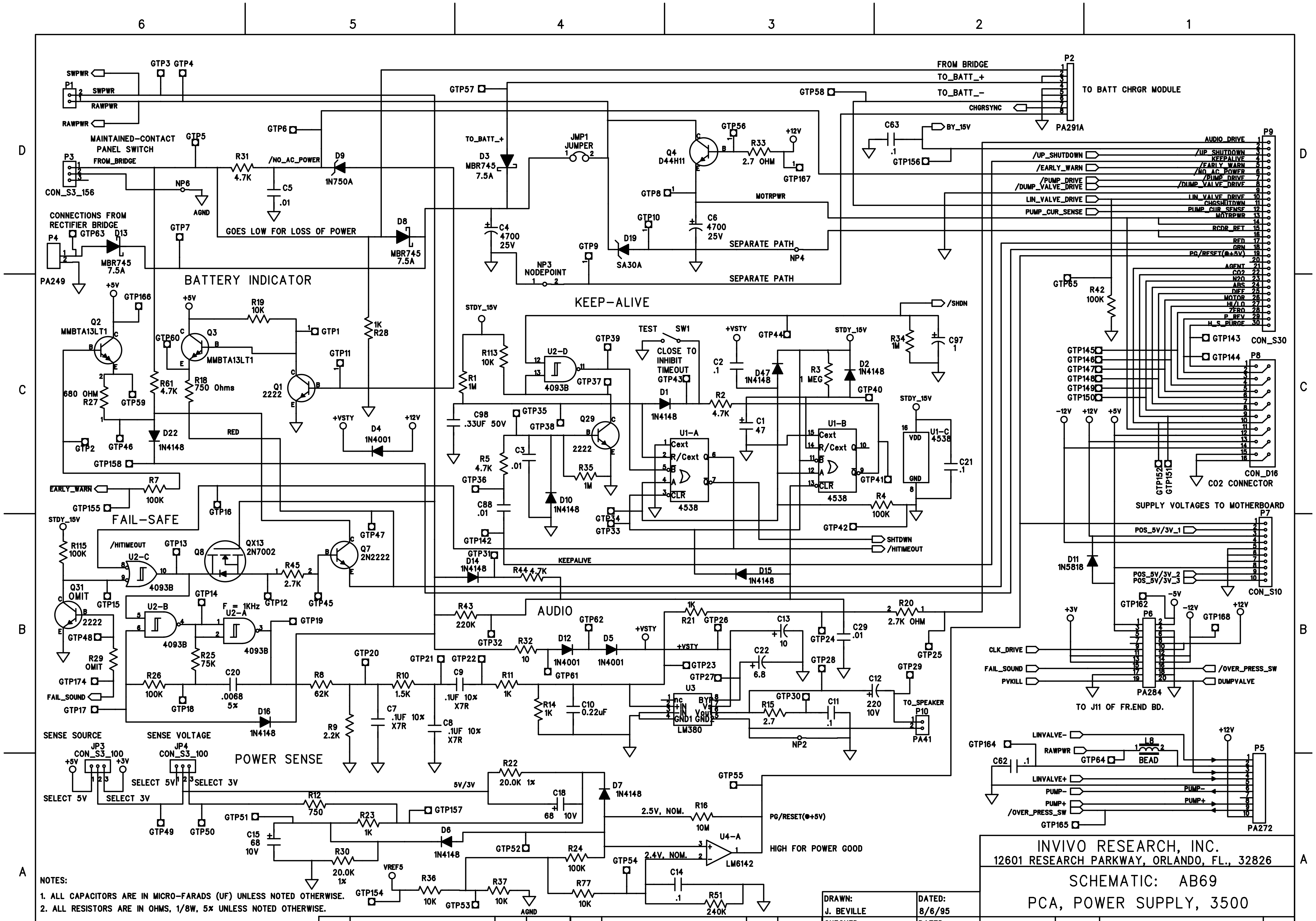
6
5
4
3
2
1
D
C
B
A
SWPWR
P1
RAWPWR
GTP3 GTP4
FROM BRIDGE
TO_BATT_+
TO_BATT_-
CHGRSYNC
P2
TO BATT CHRGR MODULE
PA291A
GTP57
GTP58
GTP6
TO_BATT_+
D3
MBR745
7.5A
JMP1
JUMPER
GTP56
Q4
D44H11
R33
2.7 OHM
+12V
GTP167
C63
.1
BY_15V
GTP156
MAINTAINED-CONTACT
PANEL SWITCH
FROM_BRIDGE
P3
CON_S3_156
GTP5
R31
4.7K
/NO_AC_POWER
D9
1N750A
C5
.01
NP6
AGND
GTP8
MOTRPWR
CONNECTIONS FROM
RECTIFIER BRIDGE
GTP63
D13
P4
PA249
MBR745
7.5A
GTP7
GOES LOW FOR LOSS OF POWER
D8
MBR745
7.5A
C4
4700
25V
GTP9
NP3
NODEPOINT
GTP10
D19
SA30A
C6
4700
25V
SEPARATE PATH
NP4
SEPARATE PATH
BATTERY INDICATOR
KEEP-ALIVE
+5V
GTP166
Q2
MMBTA13LT1
R27
680 OHM
GTP59
GTP2
GTP46
GTP60
R61
4.7K
D22
1N4148
Q3
MMBTA13LT1
R18
750 Ohms
R19
10K
GTP1
GTP11
Q1
2222
R28
1K
RED
+VSTY
D4
1N4001
+12V
GTP158
EARLY_WARN
R7
100K
GTP155
FAIL-SAFE
STDY_15V
R115
100K
/HITIMEOUT
U2-C
4093B
GTP13
GTP16
Q8
QX13
2N7002
R45
2.7K
GTP12
GTP45
Q7
2N2222
GTP47
Q31
OMIT
2222
GTP15
GTP48
R29
OMIT
GTP174
FAIL_SOUND
GTP17
U2-B
4093B
GTP14
F = 1KHz
U2-A
4093B
GTP19
R25
75K
R26
100K
GTP18
C20
.0068
5%
D16
1N4148
R8
62K
GTP20
R9
2.2K
C7
.1UF 10%
X7R
R10
1.5K
GTP21
GTP22
C9
.1UF 10%
X7R
C8
.1UF 10%
X7R
R11
1K
R14
1K
C10
0.22uF
STDY_15V
R113
10K
R1
1M
U2-D
4093B
GTP39
GTP37
TEST
SW1
CLOSE TO
INHIBIT
TIMEOUT
GTP43
+VSTY
C2
.1
D47
1N4148
GTP44
STDY_15V
R3
1 MEG
D2
1N4148
R34
1M
C97
1
/SHDN
GTP40
C98
.33UF 50V
GTP35
GTP38
Q29
2222
D1
1N4148
R2
4.7K
C1
47
U1-A
4538
U1-B
4538
STDY_15V
U1-C
4538
C21
.1
R5
4.7K
C3
.01
R35
1M
D10
1N4148
GTP36
C88
.01
GTP34
GTP33
GTP41
R4
100K
GTP42
SHTDWN
/HITIMEOUT
GTP142
GTP31
D14
1N4148
R44
4.7K
KEEPALIVE
D15
1N4148
R43
220K
GTP32
AUDIO
R32
10
D12
1N4001
D5
1N4001
GTP62
+VSTY
GTP61
R21
1K
GTP26
C13
10
GTP24
C29
.01
R20
2.7K OHM
GTP25
C22
6.8
GTP23
GTP28
GTP27
U3
LM380
R15
2.7
GTP30
C11
.1
C12
220
10V
GTP29
TO_SPEAKER
P10
PA41
NP2
SENSE SOURCE
JP3
CON_S3_100
SELECT 5V
SELECT 3V
SENSE VOLTAGE
JP4
CON_S3_100
SELECT 5V
SELECT 3V
POWER SENSE
GTP49
GTP50
R12
750
GTP51
C15
68
10V
R23
1K
GTP157
R22
20.0K 1%
5V/3V
C18
68 10V
D7
1N4148
GTP55
2.5V, NOM.
R16
10M
PG/RESET(@+5V)
U4-A
LM6142
HIGH FOR POWER GOOD
D6
1N4148
R30
20.0K
1%
GTP52
R24
100K
GTP54
2.4V, NOM.
C14
.1
R51
240K
VREF5
GTP154
R36
10K
GTP53
R37
10K
AGND
R77
10K
P9
AUDIO_DRIVE
/UP_SHUTDOWN
KEEPALIVE
/EARLY_WARN
/NO_AC_POWER
/PUMP_DRIVE
/DUMP_VALVE_DRIVE
LIN_VALVE_DRIVE
CHGSHUTDWN
PUMP_CUR_SENSE
MOTRPWR
RCDR_RET
RED
GRN
PG/RESET(@+5V)
AGENT
CO2
N2O
ABS
DIFF
MOTOR
HI/LO
ZERO
P_REV
H_S_PURGE
CON_S30
GTP65
R42
100K
GTP143
GTP144
GTP145
GTP146
GTP147
GTP148
GTP149
GTP150
P8
-12V
+12V
+5V
GTP152
GTP151
CON_D16
CO2 CONNECTOR
SUPPLY VOLTAGES TO MOTHERBOARD
P7
POS_5V/3V_1
D11
1N5818
POS_5V/3V_2
POS_5V/3V_3
CON_S10
GTP162
-5V
+3V
P6
-12V
GTP168
+12V
CLK_DRIVE
FAIL_SOUND
PVKILL
/OVER_PRESS_SW
DUMPVALVE
PA284
TO J11 OF FR.END BD.
+12V
LINVALVE-
RAWPWR
L8
BEAD
GTP164
GTP64
C62
.1
LINVALVE+
PUMP-
PUMP+
/OVER_PRESS_SW
GTP165
P5
PA272

NOTES:

1. ALL CAPACITORS ARE IN MICRO-FARADS (UF) UNLESS NOTED OTHERWISE.
2. ALL RESISTORS ARE IN OHMS, 1/8W, 5% UNLESS NOTED OTHERWISE.

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	CONTINUED ON SHEET 2			02	PROTOTYPE	SLN	15JUL95
B	PER ECN #4882	SLC	13MAR96	01	PROTOTYPE	SLN	15MAR95
A	RELEASED PER ECN #4631	SLC	09NOV95	0	PROTOTYPE	SLN	10JAN95
REV.	DESCRIPTION	BY	DATE	REV.	DESCRIPTION	BY	DATE

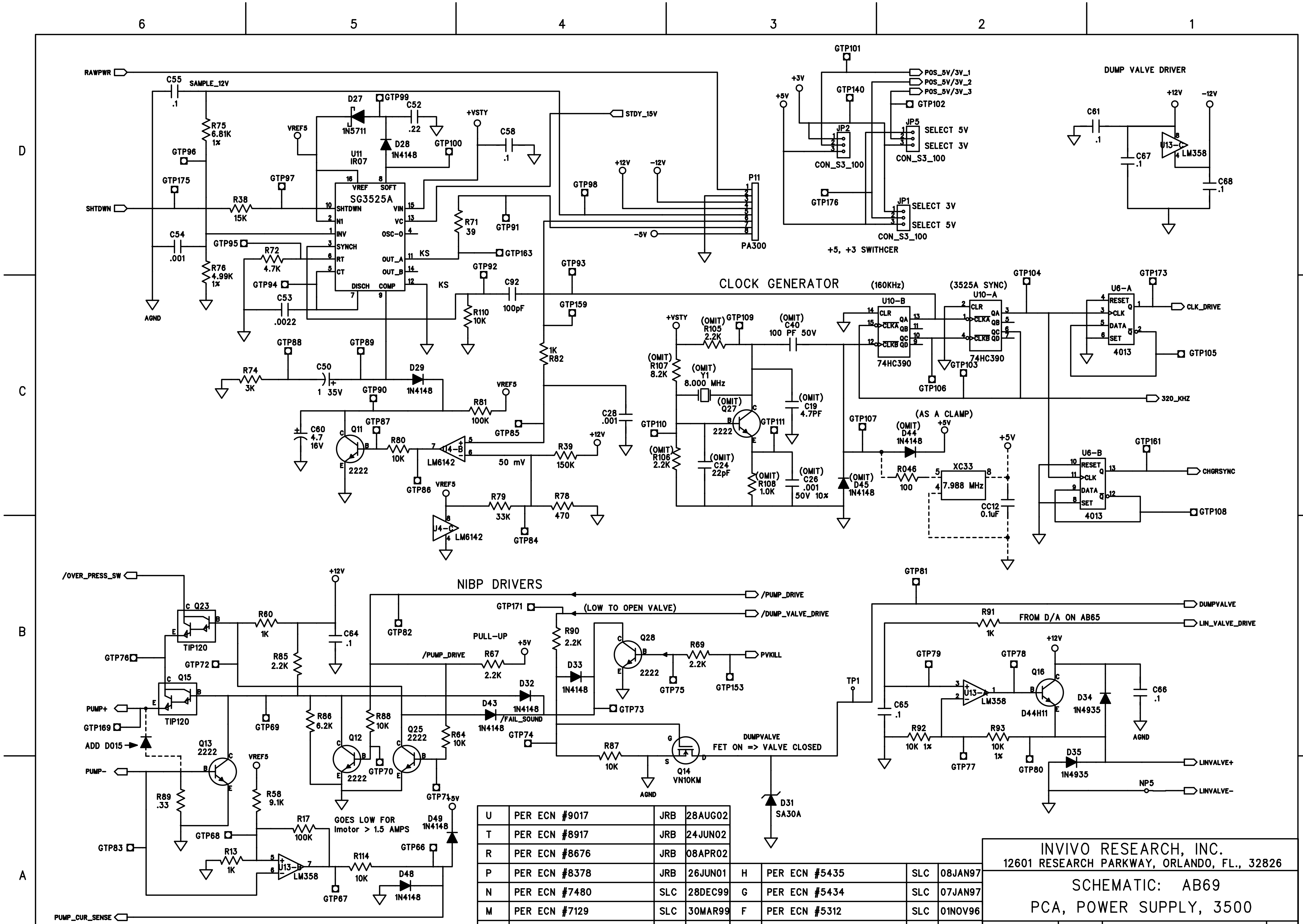
DRAWN: J. BEVILLE	DATED: 8/6/95
CHECKED:	DATED:
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

INVIVO RESEARCH, INC.
12601 RESEARCH PARKWAY, ORLANDO, FL., 32826

SCHEMATIC: AB69
PCA, POWER SUPPLY, 3500

PCB:	SIZE:	DRAWING NO:	REV:
B145	C	185C187	U

SCALE: NONE
SHEET: 1 OF 3



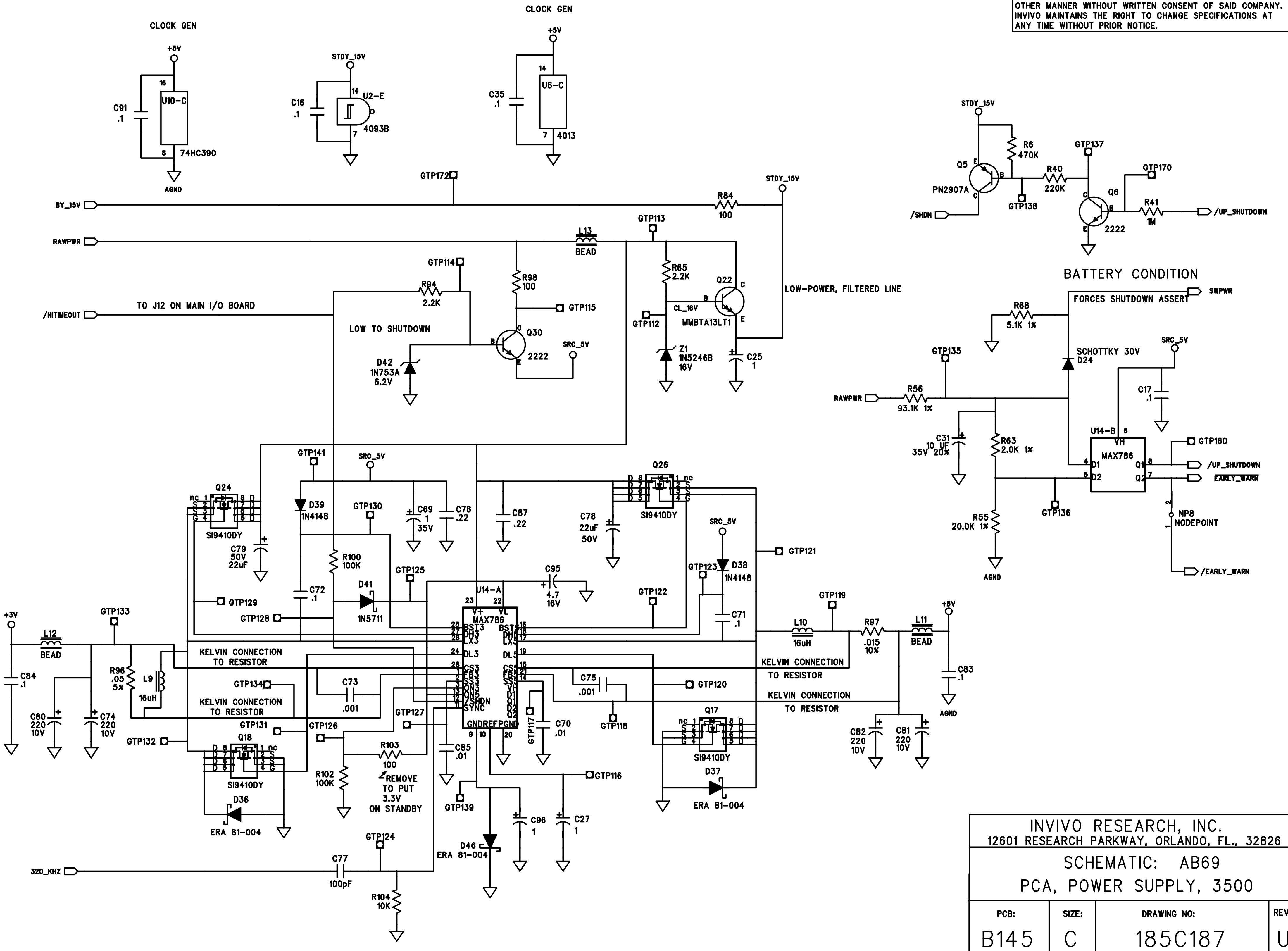
6
5
4
3
2
1
D
C
B
A
RAWPWR
C55
.1
SAMPLE_12V
R75
6.81K
1%
GTP96
GTP175
SHTDWN
R38
15K
C54
.001
GTP95
R72
4.7K
R76
4.99K
1%
GTP94
C53
.0022
AGND
D27
1N5711
GTP99
C52
.22
D28
1N4148
VREF5
U11
IR07
GTP97
GTP100
+VSTY
C58
.1
SG3525A
VREF
SOFT
SHTDWN
N1
INV
SYNCH
RT
CT
DISCH
COMP
VIN
VC
OSC-O
OUT_A
OUT_B
R71
39
GTP91
GTP163
KS
GTP92
C92
100pF
R110
10K
GTP93
GTP159
STDY_15V
+12V
-12V
-5V
GTP98
P11
PA300
1K
R82
GTP88
GTP89
R74
3K
C50
1 35V
D29
1N4148
GTP90
R81
100K
VREF5
C28
.001
GTP87
C60
4.7
16V
Q11
2222
R80
10K
U4-B
LM6142
GTP85
50 mV
R39
150K
GTP86
R79
33K
R78
470
GTP84
U4-C
LM6142
GTP101
+3V
+5V
POS_5V/3V_1
POS_5V/3V_2
POS_5V/3V_3
GTP140
GTP102
JP2
CON_S3_100
JP5
SELECT 5V
SELECT 3V
CON_S3_100
GTP176
JP1
SELECT 3V
SELECT 5V
CON_S3_100
+5, +3 SWITHCER
DUMP VALVE DRIVER
C61
.1
+12V
-12V
U13-C
LM358
C67
.1
C68
.1
CLOCK GENERATOR
(160KHz)
(3525A SYNC)
GTP104
GTP173
U10-B
U10-A
74HC390
74HC390
CLR
CLKA
CLKB
QA
QB
QC
QD
U6-A
RESET
CLK
DATA
SET
4013
CLK_DRIVE
GTP105
GTP103
GTP106
320_KHZ
+VSTY
(OMIT)
R105
2.2K
GTP109
(OMIT)
C40
100 PF 50V
(OMIT)
R107
8.2K
(OMIT)
Y1
8.000 MHz
(OMIT)
Q27
2222
(OMIT)
C19
4.7PF
GTP110
GTP111
(OMIT)
R106
2.2K
(OMIT)
C24
22pF
(OMIT)
R108
1.0K
(OMIT)
C26
.001
50V 10%
(OMIT)
D45
1N4148
GTP107
(AS A CLAMP)
(OMIT)
D44
1N4148
+5V
R046
100
XC33
7.988 MHz
CC12
0.1uF
GTP161
U6-B
RESET
CLK
DATA
SET
4013
CHGRSYNC
GTP108
NIBP DRIVERS
/OVER_PRESS_SW
Q23
TIP120
R60
1K
+12V
C64
.1
GTP82
R85
2.2K
GTP76
GTP72
Q15
TIP120
PUMP+
GTP169
ADD D015
PUMP-
Q13
2222
R89
.33
GTP83
GTP69
R86
6.2K
Q12
2222
R88
10K
Q25
2222
GTP70
VREF5
R58
9.1K
GTP68
R13
1K
R17
100K
GOES LOW FOR
Imotor > 1.5 AMPS
U13-B
LM358
R114
10K
GTP67
D48
1N4148
GTP66
D49
1N4148
+5V
PUMP_CUR_SENSE
GTP171
R90
2.2K
PULL-UP
+5V
/PUMP_DRIVE
R67
2.2K
D32
1N4148
D43
1N4148
/FAIL_SOUND
R64
10K
GTP74
GTP71
/PUMP_DRIVE
/DUMP_VALVE_DRIVE
(LOW TO OPEN VALVE)
Q28
2222
D33
1N4148
R69
2.2K
PVKILL
GTP75
GTP153
GTP73
R87
10K
AGND
DUMPVALVE
FET ON => VALVE CLOSED
Q14
VN10KM
D31
SA30A
GTP81
DUMPVALVE
R91
1K
FROM D/A ON AB65
LIN_VALVE_DRIVE
TP1
GTP79
GTP78
+12V
C65
.1
U13-A
LM358
Q16
D44H11
D34
1N4935
C66
.1
AGND
R92
10K 1%
R93
10K
1%
GTP77
GTP80
D35
1N4935
LINVALVE+
NP5
LINVALVE-

U	PER ECN #9017	JRB	28AUG02				
T	PER ECN #8917	JRB	24JUN02				
R	PER ECN #8676	JRB	08APR02				
P	PER ECN #8378	JRB	26JUN01	H	PER ECN #5435	SLC	08JAN97
N	PER ECN #7480	SLC	28DEC99	G	PER ECN #5434	SLC	07JAN97
M	PER ECN #7129	SLC	30MAR99	F	PER ECN #5312	SLC	01NOV96
L	PER ECN #6215	SLC	25NOV97	E	PER ECN #5199	RHK	02AUG96
K	PER ECN #6213M	SLC	25NOV97	D	PER ECN #5156	SLC	15JUL96
J	PER ECN #5673M	JRB	10APR97	C	PER ECN #4854	JRB	4/16/96
REV.	DESCRIPTION	BY	DATE	REV.	DESCRIPTION	BY	DATE

INVIVO RESEARCH, INC.
12601 RESEARCH PARKWAY, ORLANDO, FL., 32826

SCHEMATIC: AB69
PCA, POWER SUPPLY, 3500

PCB:	SIZE:	DRAWING NO:	REV:
B145	C	185C187	U
SCALE: NONE		SHEET: 2 of 3	


CLOCK GEN
+5V
C91
.1
U10-C
16
8
74HC390
AGND
STDY_15V
C16
.1
U2-E
14
7
4093B
CLOCK GEN
+5V
C35
.1
U6-C
14
7
4013
GTP172
BY_15V
R84
100
STDY_15V
RAWPWR
L13
BEAD
GTP113
GTP114
R98
100
R94
2.2K
GTP115
/HITIMEOUT
TO J12 ON MAIN I/O BOARD
LOW TO SHUTDOWN
Q30
2222
SRC_5V
D42
1N753A
6.2V
R65
2.2K
Q22
MMBTA13LT1
CL_16V
GTP112
Z1
1N5246B
16V
C25
1
LOW-POWER, FILTERED LINE
STDY_15V
Q5
PN2907A
R6
470K
R40
220K
GTP137
GTP138
GTP170
Q6
2222
R41
1M
/SHDN
/UP_SHUTDOWN
BATTERY CONDITION
FORCES SHUTDOWN ASSERT
SWPWR
R68
5.1K 1%
SCHOTTKY 30V
D24
SRC_5V
GTP135
C17
.1
RAWPWR
R56
93.1K 1%
C31
10 UF
35V 20%
R63
2.0K 1%
U14-B
MAX786
VH
D1
D2
Q1
Q2
GTP160
/UP_SHUTDOWN
EARLY_WARN
GTP136
R55
20.0K 1%
AGND
NP8
NODEPOINT
/EARLY_WARN
GTP141
SRC_5V
Q24
SI9410DY
D39
1N4148
GTP130
C69
1
35V
C76
.22
C87
.22
Q26
SI9410DY
C78
22uF
50V
C79
50V
22uF
R100
100K
GTP125
D41
1N5711
C72
.1
GTP129
GTP128
U14-A
MAX786
V+
VL
BST3
DH3
LX3
DL3
CS3
FB3
SS3
ON3
ON5
/SHDN
SYNC
GND
REF
PGND
BST5
DH5
LX5
DL5
CS5
FB5
SS5
VH
D1
Q1
D2
Q2
C95
4.7
16V
GTP122
GTP123
SRC_5V
D38
1N4148
C71
.1
GTP121
+3V
L12
BEAD
GTP133
C84
.1
R96
.05
5%
L9
16uH
KELVIN CONNECTION
TO RESISTOR
GTP134
C73
.001
KELVIN CONNECTION
TO RESISTOR
C80
220
10V
C74
220
10V
GTP132
GTP131
Q18
SI9410DY
D36
ERA 81-004
GTP126
GTP127
R103
100
REMOVE
TO PUT
3.3V
ON STANDBY
R102
100K
C85
.01
GTP139
D46
ERA 81-004
C96
1
C27
1
GTP116
GTP117
C70
.01
C75
.001
GTP118
GTP120
Q17
SI9410DY
D37
ERA 81-004
L10
16uH
GTP119
R97
.015
10%
L11
BEAD
+5V
C83
.1
AGND
KELVIN CONNECTION
TO RESISTOR
KELVIN CONNECTION
TO RESISTOR
C82
220
10V
C81
220
10V
320_KHZ
C77
100pF
GTP124
R104
10K

INVIVO RESEARCH, INC.
12601 RESEARCH PARKWAY, ORLANDO, FL., 32826

SCHEMATIC: AB69
PCA, POWER SUPPLY, 3500

PCB:	SIZE:	DRAWING NO:	REV:
B145	C	185C187	U

SCALE: NONE

SHEET: 3 of 3

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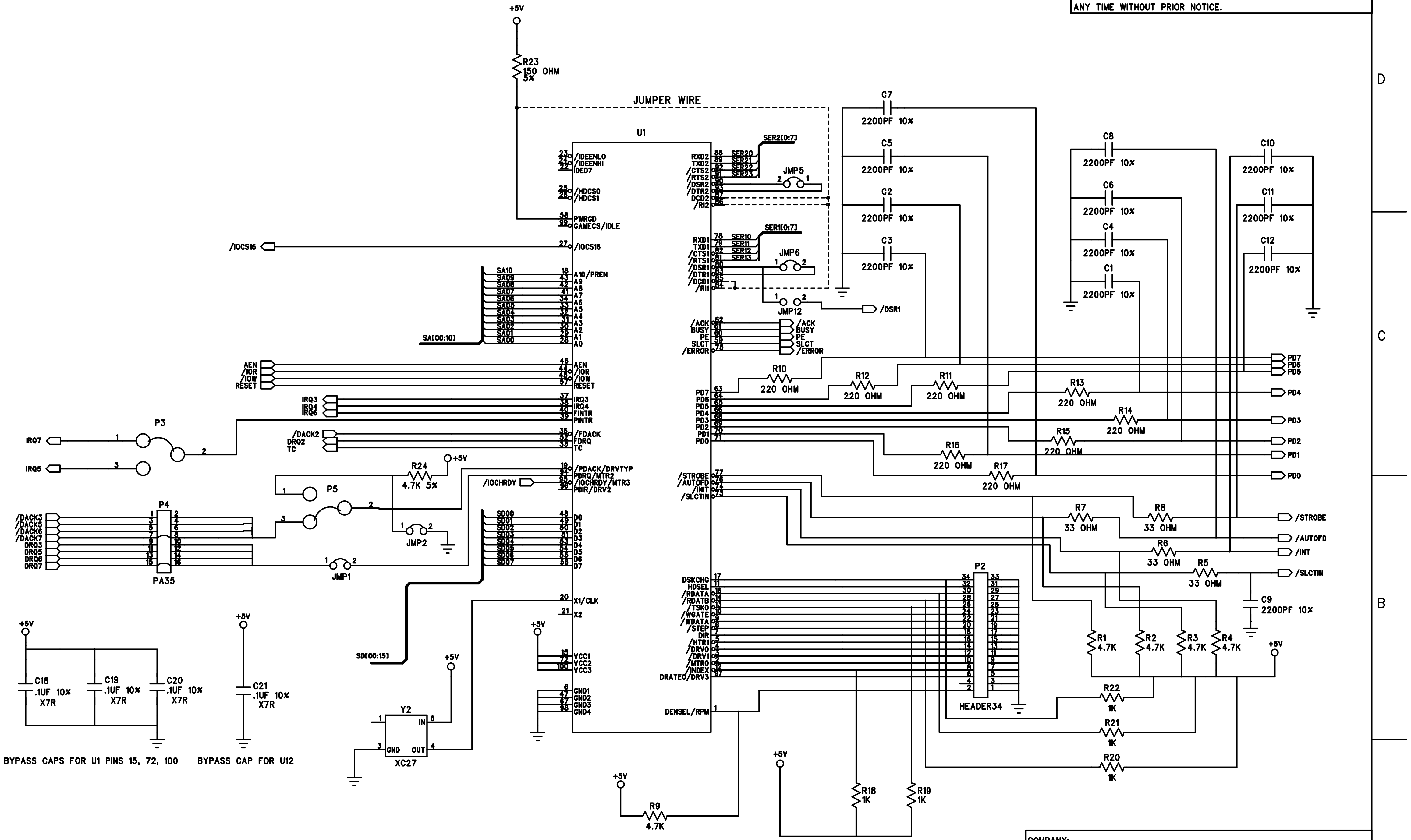


6
5
4
3
2
1
D
C
B
A
+5V
R23
150 OHM
5%
JUMPER WIRE
U1
/IDEENLO
/IDEENHI
IDED7
/HDCS0
/HDCS1
PWRGD
GAMECS/IDLE
/IOCS16
A10/PREN
A9
A8
A7
A6
A5
A4
A3
A2
A1
A0
SA10
SA09
SA08
SA07
SA06
SA05
SA04
SA03
SA02
SA01
SA00
SA[00:10]
AEN
/IOR
/IOW
RESET
IRQ3
IRQ4
IRQ6
FINTR
PINTR
/DACK2
DRQ2
TC
/FDACK
FDRQ
IRQ7
IRQ5
P3
R24
4.7K 5%
P5
/PDACK/DRVTYP
PDRQ/MTR2
/IOCHRDY/MTR3
PDIR/DRV2
/IOCHRDY
JMP2
/DACK3
/DACK5
/DACK6
/DACK7
DRQ3
DRQ5
DRQ6
DRQ7
P4
PA35
JMP1
SD00
SD01
SD02
SD03
SD04
SD05
SD06
SD07
D0
D1
D2
D3
D4
D5
D6
D7
SD[00:15]
X1/CLK
X2
VCC1
VCC2
VCC3
GND1
GND2
GND3
GND4
Y2
IN
GND
OUT
XC27
C18
.1UF 10%
X7R
C19
.1UF 10%
X7R
C20
.1UF 10%
X7R
C21
.1UF 10%
X7R
BYPASS CAPS FOR U1 PINS 15, 72, 100
BYPASS CAP FOR U12
RXD2
TXD2
/CTS2
/RTS2
/DSR2
/DTR2
DCD2
/RI2
SER2[0:7]
SER20
SER21
SER22
SER23
JMP5
RXD1
TXD1
/CTS1
/RTS1
/DSR1
/DTR1
/DCD1
/RI1
SER1[0:7]
SER10
SER11
SER12
SER13
JMP6
JMP12
/DSR1
/ACK
BUSY
PE
SLCT
/ERROR
PD7
PD6
PD5
PD4
PD3
PD2
PD1
PD0
/STROBE
/AUTOFD
/INIT
/SLCTIN
C7
2200PF 10%
C5
2200PF 10%
C2
2200PF 10%
C3
2200PF 10%
C8
2200PF 10%
C6
2200PF 10%
C4
2200PF 10%
C1
2200PF 10%
C10
2200PF 10%
C11
2200PF 10%
C12
2200PF 10%
R10
220 OHM
R12
220 OHM
R11
220 OHM
R13
220 OHM
R14
220 OHM
R15
220 OHM
R16
220 OHM
R17
220 OHM
R7
33 OHM
R8
33 OHM
R6
33 OHM
R5
33 OHM
C9
2200PF 10%
DSKCHG
HDSEL
/RDATA
/RDATB
/TSK0
/WGATE
/WDATA
/STEP
DIR
/HTR1
/DRV0
/DRV1
/MTR0
/INDEX
DRATE0/DRV3
DENSEL/RPM
P2
HEADER34
R1
4.7K
R2
4.7K
R3
4.7K
R4
4.7K
R22
1K
R21
1K
R20
1K
R18
1K
R19
1K
R9
4.7K

K	PER ECN # 7860	ALH	19DEC00	E	PER ECN #5415	SLC	25NOV96
J	PER ECN # 7475	ALH	27DEC99	D	PER ECN #5163M	SLC	15JUL96
H	PER ECN # 6772	ALH	8AUG98	C	PER ECN #4895	JRB	2/29/96
G	PER ECN # 5564	SLC	11FEB97	B	PER ECN #4827	SLC	2/23/96
F	PER ECN # 5455	SLC	19DEC96	A	RELEASED ECN #4695	SLC	18DEC95
REV.	DESCRIPTION	BY	DATE	REV.	DESCRIPTION	BY	DATE

L	PER ECN # 8255	SLC	13MAR01
REV.	DESCRIPTION	BY	DATE

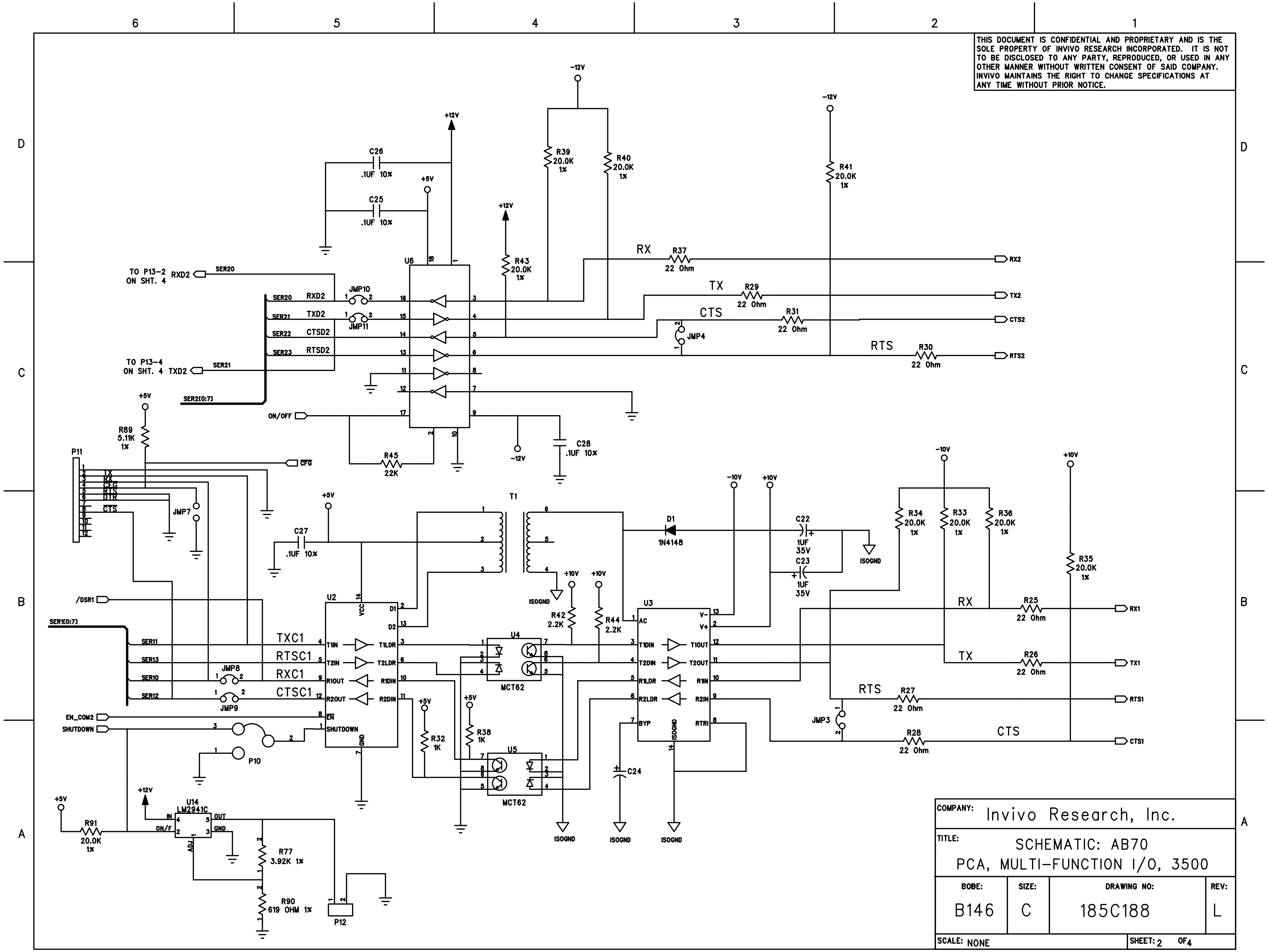
DRAWN: J.NABORS	DATED: 10/26/95
CHECKED:	DATED:
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

COMPANY: Invivo Research, Inc.

TITLE: SCHEMATIC:AB70
PCA, I/O BOARD, 3500

PCB	SIZE:	DRAWING NO:	REV:
B146	C	185C188	L

SCALE: NONE
SHEET: 1 OF 4


6
5
4
3
2
1
D
C
B
A
-12V
+12V
+5V
C26
.1UF 10%
C25
.1UF 10%
R39
20.0K
1%
R40
20.0K
1%
R41
20.0K
1%
R43
20.0K
1%
U6
RX
R37
22 Ohm
RX2
TX
R29
22 Ohm
TX2
CTS
R31
22 Ohm
CTS2
RTS
R30
22 Ohm
RTS2
JMP4
TO P13-2
ON SHT. 4
RXD2
SER20
SER21
SER22
SER23
RXD2
TXD2
CTSD2
RTSD2
JMP10
JMP11
TO P13-4
ON SHT. 4
TXD2
SER2[0:7]
ON/OFF
R45
22K
C28
.1UF 10%
R89
5.11K
1%
P11
TX
RX
CFG
RTS
DTR
CTS
CFG
JMP7
T1
C27
.1UF 10%
D1
1N4148
C22
1UF
35V
C23
1UF
35V
ISOGND
-10V
+10V
R34
20.0K
1%
R33
20.0K
1%
R36
20.0K
1%
R35
20.0K
1%
/DSR1
SER1[0:7]
SER11
SER13
SER10
SER12
U2
VCC
D1
D2
T1IN
T2IN
R1OUT
R2OUT
EN
SHUTDOWN
GND
T1LDR
T2LDR
R1DIN
R2DIN
TXC1
RTSC1
RXC1
CTSC1
JMP8
JMP9
EN_COM2
SHUTDOWN
P10
U4
MCT62
U5
MCT62
R32
1K
R38
1K
R42
2.2K
R44
2.2K
U3
AC
T1DIN
T2DIN
R1LDR
R2LDR
BYP
ISOGND
V-
V+
T1OUT
T2OUT
R1IN
R2IN
RTRI
C24
RX
R25
22 Ohm
RX1
TX
R26
22 Ohm
TX1
RTS
R27
22 Ohm
RTS1
JMP3
CTS
R28
22 Ohm
CTS1
U14
LM2941C
IN
ON/F
OUT
GND
ADJ
R91
20.0K
1%
R77
3.92K 1%
R90
619 OHM 1%
P12

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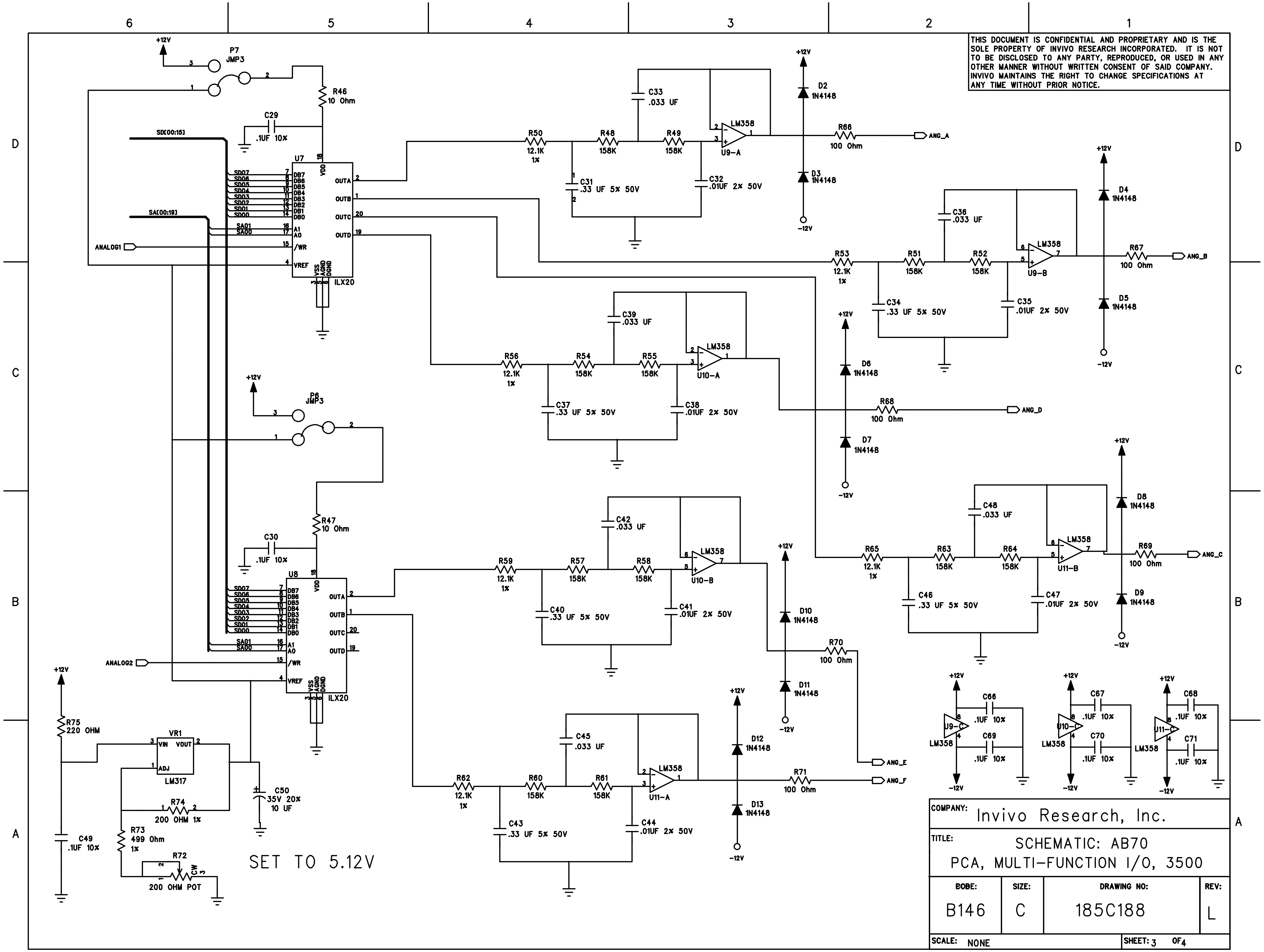
COMPANY: Invivo Research, Inc.			
TITLE: SCHEMATIC: AB70 PCA, MULTI-FUNCTION I/O, 3500			
BOBE: B146	SIZE: C	DRAWING NO: 185C188	REV: L
SCALE: NONE		SHEET: 2 OF 4	



6
5
4
3
2
1
D
C
B
A
+12V
P7
JMP3
3
1
2
R46
10 Ohm
C29
.1UF 10%
SD[00:15]
SA[00:19]
U7
ILX20
SD07
SD06
SD05
SD04
SD03
SD02
SD01
SD00
SA01
SA00
DB7
DB6
DB5
DB4
DB3
DB2
DB1
DB0
A1
A0
/WR
VREF
VDD
VSS
AGND
DGND
OUTA
OUTB
OUTC
OUTD
ANALOG1
R50
12.1K
1%
R48
158K
R49
158K
C33
.033 UF
C31
.33 UF 5% 50V
C32
.01UF 2% 50V
LM358
U9-A
D2
1N4148
D3
1N4148
-12V
R66
100 Ohm
ANG_A
R53
12.1K
1%
R51
158K
R52
158K
C36
.033 UF
C34
.33 UF 5% 50V
C35
.01UF 2% 50V
LM358
U9-B
D4
1N4148
D5
1N4148
R67
100 Ohm
ANG_B
R56
12.1K
1%
R54
158K
R55
158K
C39
.033 UF
C37
.33 UF 5% 50V
C38
.01UF 2% 50V
LM358
U10-A
D6
1N4148
D7
1N4148
R68
100 Ohm
ANG_D
P8
JMP3
R47
10 Ohm
C30
.1UF 10%
U8
ILX20
ANALOG2
R59
12.1K
1%
R57
158K
R58
158K
C42
.033 UF
C40
.33 UF 5% 50V
C41
.01UF 2% 50V
LM358
U10-B
D10
1N4148
D11
1N4148
R70
100 Ohm
ANG_E
R65
12.1K
1%
R63
158K
R64
158K
C48
.033 UF
C46
.33 UF 5% 50V
C47
.01UF 2% 50V
LM358
U11-B
D8
1N4148
D9
1N4148
R69
100 Ohm
ANG_C
R62
12.1K
1%
R60
158K
R61
158K
C45
.033 UF
C43
.33 UF 5% 50V
C44
.01UF 2% 50V
LM358
U11-A
D12
1N4148
D13
1N4148
R71
100 Ohm
ANG_F
R75
220 OHM
C49
.1UF 10%
VR1
LM317
VIN
VOUT
ADJ
R74
200 OHM 1%
R73
499 Ohm
1%
R72
200 OHM POT
CW
C50
35V 20%
10 UF
SET TO 5.12V
U9-C
C66
.1UF 10%
C69
.1UF 10%
U10-C
C67
.1UF 10%
C70
.1UF 10%
U11-C
C68
.1UF 10%
C71
.1UF 10%

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COMPANY: Invivo Research, Inc.			
TITLE: SCHEMATIC: AB70 PCA, MULTI-FUNCTION I/O, 3500			
BOBE: B146	SIZE: C	DRAWING NO: 185C188	REV: L
SCALE: NONE		SHEET: 3 OF 4	

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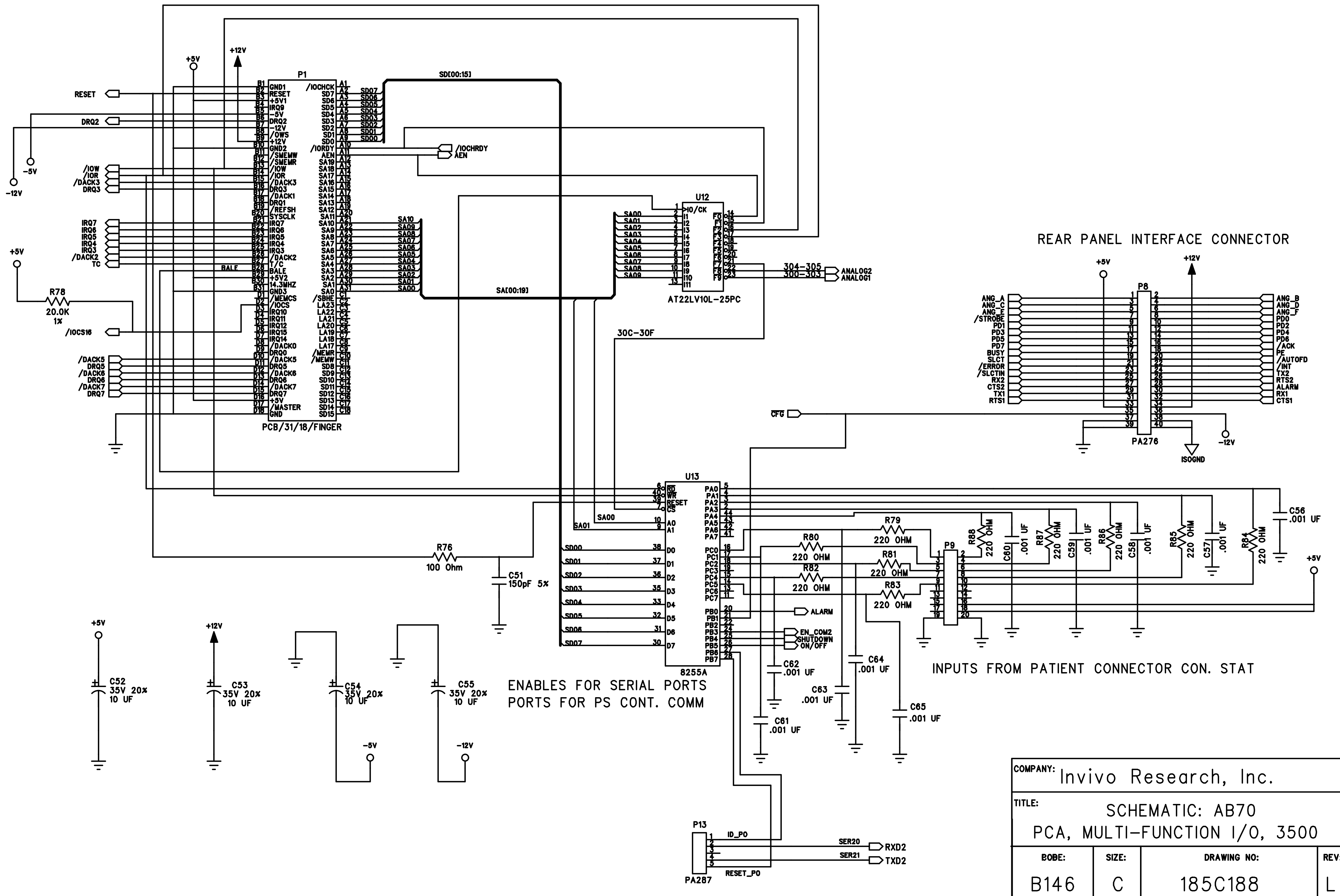
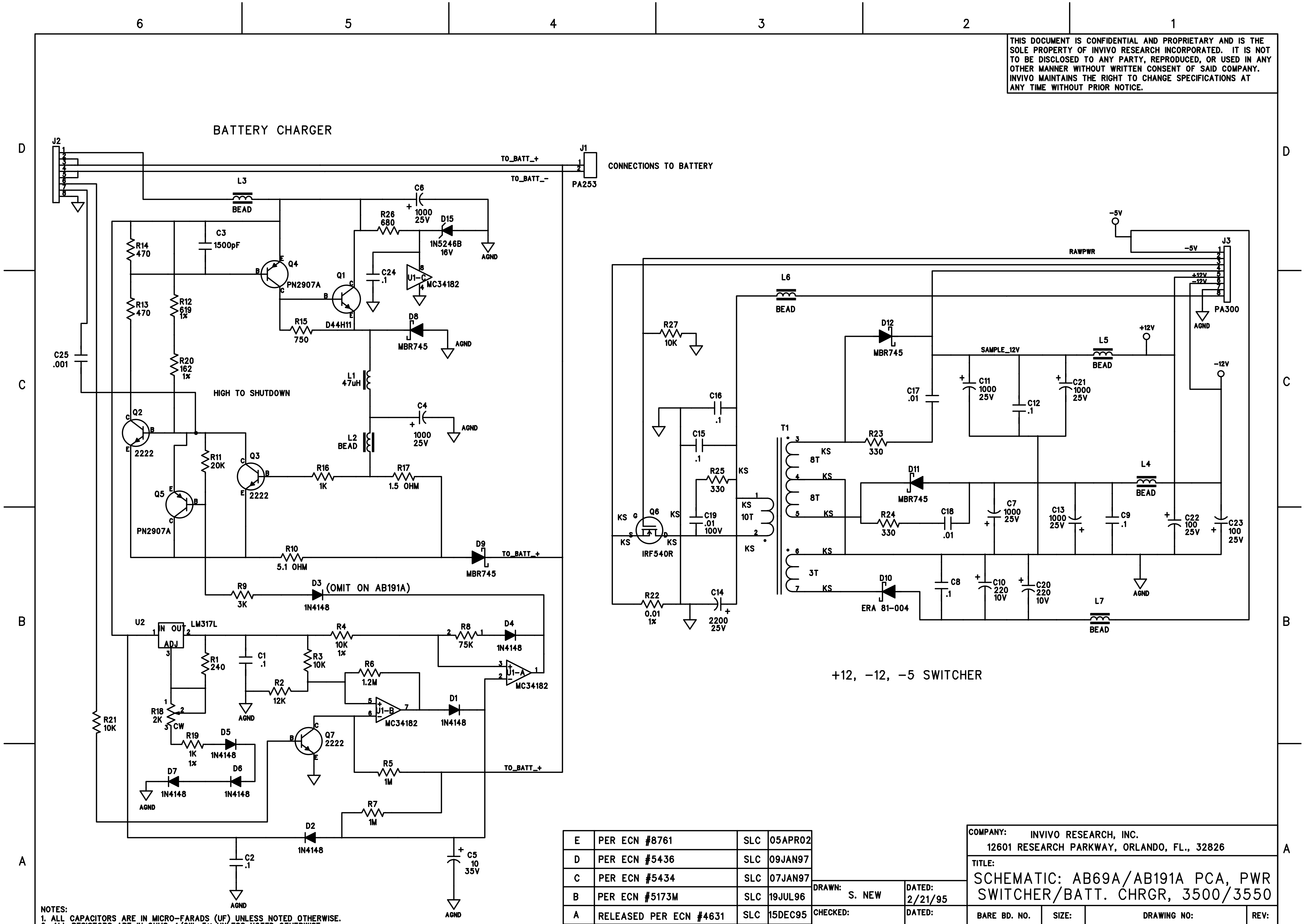

P1
PCB/31/18/FINGER
RESET
DRQ2
-12V
-5V
+5V
+12V
/IOW
/IOR
/DACK3
DRQ3
IRQ7
IRQ6
IRQ5
IRQ4
IRQ3
/DACK2
TC
BALE
R78
20.0K
1%
/IOCS16
/DACK5
DRQ5
/DACK6
DRQ6
/DACK7
DRQ7
SD[00:15]
SA[00:19]
/IOCHRDY
AEN
U12
AT22LV10L-25PC
304-305
300-303
ANALOG2
ANALOG1
30C-30F
REAR PANEL INTERFACE CONNECTOR
P8
PA276
ISOGND
ANG_A
ANG_C
ANG_E
/STROBE
PD1
PD3
PD5
PD7
BUSY
SLCT
/ERROR
/SLCTIN
RX2
CTS2
TX1
RTS1
ANG_B
ANG_D
ANG_F
PD0
PD2
PD4
PD6
/ACK
PE
/AUTOFD
/INT
TX2
RTS2
ALARM
RX1
CTS1
CFG
U13
8255A
SA01
SA00
SD00
SD01
SD02
SD03
SD04
SD05
SD06
SD07
R76
100 Ohm
C51
150pF 5%
ALARM
EN_COM2
SHUTDOWN
ON/OFF
R79
220 OHM
R80
220 OHM
R81
220 OHM
R82
220 OHM
R83
220 OHM
R84
R85
R86
R87
R88
220 OHM
C56
.001 UF
C57
C58
C59
C60
.001 UF
P9
C61
.001 UF
C62
.001 UF
C63
.001 UF
C64
.001 UF
C65
.001 UF
INPUTS FROM PATIENT CONNECTOR CON. STAT
ENABLES FOR SERIAL PORTS
PORTS FOR PS CONT. COMM
C52
35V 20%
10 UF
C53
35V 20%
10 UF
C54
35V 20%
10 UF
C55
35V 20%
10 UF
P13
PA287
ID_PO
RESET_PO
SER20
SER21
RXD2
TXD2

COMPANY: Invivo Research, Inc.

TITLE: SCHEMATIC: AB70
PCA, MULTI-FUNCTION I/O, 3500

BOBE:	SIZE:	DRAWING NO:	REV:
B146	C	185C188	L

SCALE: NONE
SHEET:4 OF4


6
5
4
3
2
1
D
C
B
A
BATTERY CHARGER
J2
J1
TO_BATT_+
TO_BATT_-
CONNECTIONS TO BATTERY
PA253
L3
BEAD
C6
1000
25V
R26
680
D15
1N5246B
16V
AGND
R14
470
C3
1500pF
Q4
PN2907A
Q1
D44H11
C24
.1
U1-C
MC34182
R13
470
R12
619
1%
R15
750
D8
MBR745
L1
47uH
C25
.001
R20
162
1%
HIGH TO SHUTDOWN
C4
1000
25V
L2
BEAD
Q2
2222
Q3
2222
R11
20K
Q5
PN2907A
R16
1K
R17
1.5 OHM
R10
5.1 OHM
D9
MBR745
R9
3K
D3
1N4148
(OMIT ON AB191A)
U2
LM317L
IN OUT
ADJ
R4
10K
1%
R8
75K
D4
1N4148
C1
.1
R1
240
R3
10K
R6
1.2M
U1-A
MC34182
R2
12K
R18
2K
CW
U1-B
MC34182
D1
1N4148
R21
10K
R19
1K
1%
D5
1N4148
Q7
2222
D7
1N4148
D6
1N4148
R5
1M
R7
1M
D2
1N4148
C2
.1
C5
10
35V
-5V
J3
RAWPWR
-5V
+12V
-12V
PA300
L6
BEAD
R27
10K
D12
MBR745
+12V
SAMPLE_12V
L5
BEAD
C16
.1
C17
.01
C11
1000
25V
C12
.1
C21
1000
25V
-12V
C15
.1
T1
R23
330
KS
8T
R25
330
D11
MBR745
L4
BEAD
8T
10T
Q6
IRF540R
C19
.01
100V
R24
330
C18
.01
C7
1000
25V
C13
1000
25V
C9
.1
C22
100
25V
C23
100
25V
3T
D10
ERA 81-004
C8
.1
C10
220
10V
C20
220
10V
R22
0.01
1%
C14
2200
25V
L7
BEAD
+12, -12, -5 SWITCHER

NOTES:
1. ALL CAPACITORS ARE IN MICRO-FARADS (UF) UNLESS NOTED OTHERWISE.
2. ALL RESISTORS ARE IN OHMS, 1/8W, 5% UNLESS NOTED OTHERWISE.

REV.	DESCRIPTION	BY	DATE
E	PER ECN #8761	SLC	05APR02
D	PER ECN #5436	SLC	09JAN97
C	PER ECN #5434	SLC	07JAN97
B	PER ECN #5173M	SLC	19JUL96
A	RELEASED PER ECN #4631	SLC	15DEC95
01	PROTOTYPE	SLN	15JUL95
0	PROTOTYPE	SLN	10MAR95

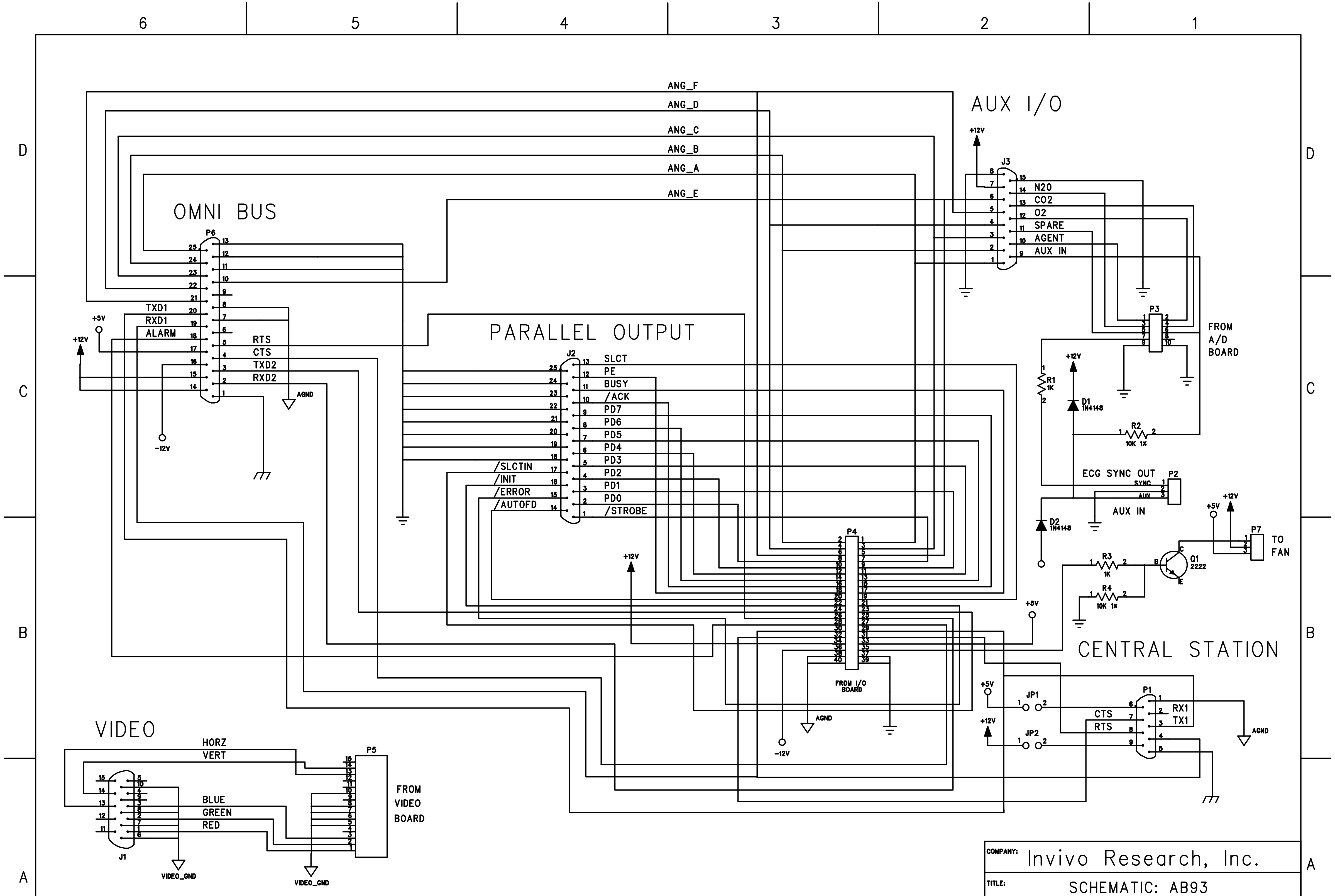
DRAWN: S. NEW	DATED: 2/21/95
CHECKED:	DATED:
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

COMPANY: INVIVO RESEARCH, INC.
12601 RESEARCH PARKWAY, ORLANDO, FL., 32826

TITLE:
SCHEMATIC: AB69A/AB191A PCA, PWR SWITCHER/BATT. CHRGR, 3500/3550

BARE BD. NO.	SIZE:	DRAWING NO:	REV:
B145A	C	185C197	E

SCALE: NONE
SHEET: 1 OF 1


6
5
4
3
2
1
D
C
B
A
OMNI BUS
P6
TXD1
RXD1
ALARM
RTS
CTS
TXD2
RXD2
+5V
+12V
-12V
AGND
ANG_F
ANG_D
ANG_C
ANG_B
ANG_A
ANG_E
AUX I/O
+12V
J3
N2O
CO2
O2
SPARE
AGENT
AUX IN
P3
FROM
A/D
BOARD
PARALLEL OUTPUT
J2
SLCT
PE
BUSY
/ACK
PD7
PD6
PD5
PD4
PD3
PD2
PD1
PD0
/STROBE
/SLCTIN
/INIT
/ERROR
/AUTOFD
R1
1K
+12V
D1
1N4148
R2
10K 1%
ECG SYNC OUT
P2
SYNC
AUX
AUX IN
D2
1N4148
+5V
+12V
P7
TO
FAN
R3
1K
Q1
2222
R4
10K 1%
P4
FROM I/O
BOARD
+12V
+5V
AGND
-12V
CENTRAL STATION
+5V
JP1
+12V
JP2
P1
CTS
RTS
RX1
TX1
AGND
VIDEO
HORZ
VERT
BLUE
GREEN
RED
J1
VIDEO_GND
P5
FROM
VIDEO
BOARD
VIDEO_GND

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REV.	DESCRIPTION	BY	DATE
D	PER ECN # 5414	SLC	22NOV96
C	PER ECN # 5190	SR	5AUG96
B	PER ECN # 4932	JRB	4/9/96
A	RELEASED, ECN #4799	JRB	2/2/96

DRAWN: J.NABORS	DATED: 10/25/95
CHECKED:	DATED:
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

COMPANY: Invivo Research, Inc.

TITLE: SCHEMATIC: AB93
PCA, REAR PANEL CONNECTORS, 3500

CODE:	SIZE:	DRAWING NO:	REV:
	C	185C202	D

SCALE: NONE
SHEET: 1 OF 1

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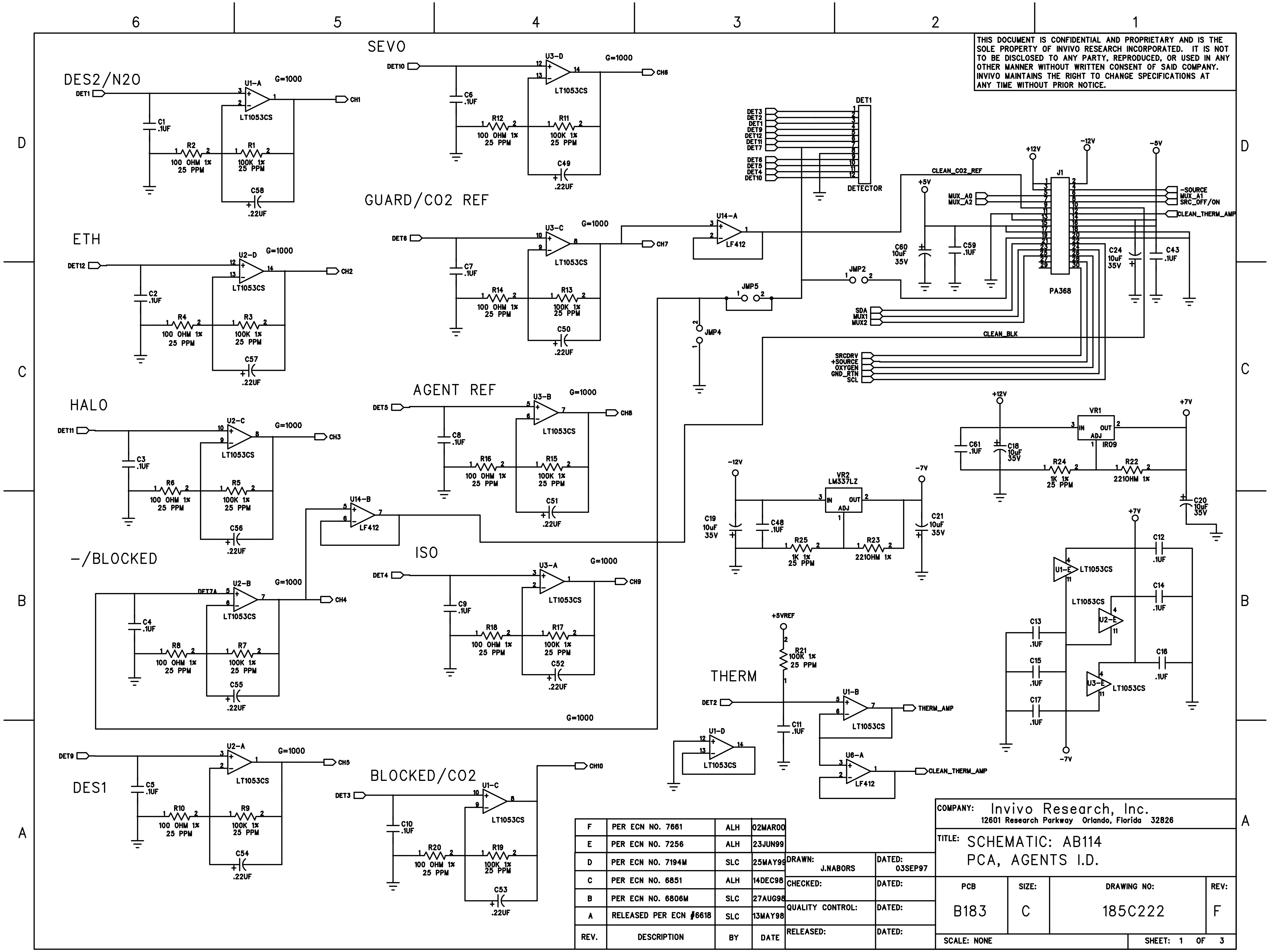
6
5
4
3
2
1
D
C
B
A
DES2/N2O
DET1
U1-A
G=1000
CH1
C1 .1UF
R2 100 OHM 1% 25 PPM
R1 100K 1% 25 PPM
C58 .22UF
LT1053CS
SEVO
DET10
U3-D
CH6
C6 .1UF
R12 100 OHM 1% 25 PPM
R11 100K 1% 25 PPM
C49 .22UF
GUARD/CO2 REF
DET6
U3-C
CH7
C7 .1UF
R14 100 OHM 1% 25 PPM
R13 100K 1% 25 PPM
C50 .22UF
U14-A
LF412
ETH
DET12
U2-D
CH2
C2 .1UF
R4 100 OHM 1% 25 PPM
R3 100K 1% 25 PPM
C57 .22UF
HALO
DET11
U2-C
CH3
C3 .1UF
R6 100 OHM 1% 25 PPM
R5 100K 1% 25 PPM
C56 .22UF
AGENT REF
DET5
U3-B
CH8
C8 .1UF
R16 100 OHM 1% 25 PPM
R15 100K 1% 25 PPM
C51 .22UF
U14-B
LF412
-/BLOCKED
DET7A
U2-B
CH4
C4 .1UF
R8 100 OHM 1% 25 PPM
R7 100K 1% 25 PPM
C55 .22UF
ISO
DET4
U3-A
CH9
C9 .1UF
R18 100 OHM 1% 25 PPM
R17 100K 1% 25 PPM
C52 .22UF
DES1
DET9
U2-A
CH5
C5 .1UF
R10 100 OHM 1% 25 PPM
R9 100K 1% 25 PPM
C54 .22UF
BLOCKED/CO2
DET3
U1-C
CH10
C10 .1UF
R20 100 OHM 1% 25 PPM
R19 100K 1% 25 PPM
C53 .22UF
DET1
DETECTOR
DET3
DET2
DET1
DET9
DET12
DET11
DET7
DET6
DET5
DET4
DET10
JMP2
JMP5
JMP4
CLEAN_CO2_REF
CLEAN_BLK
+5V
C60 10uF 35V
C59 .1UF
MUX_A0
MUX_A2
SDA
MUX1
MUX2
SRCDRV
+SOURCE
OXYGEN
GND_RTN
SCL
+12V
-12V
-5V
J1
PA368
-SOURCE
MUX_A1
SRC_OFF/ON
CLEAN_THERM_AMP
C24 10uF 35V
C43 .1UF
+12V
VR1
IR09
IN
OUT
ADJ
C51 .1UF
C18 10uF 35V
R24 1K 1% 25 PPM
R22 221OHM 1%
+7V
C20 10uF 35V
-12V
VR2
LM337LZ
-7V
C19 10uF 35V
C48 .1UF
R25 1K 1% 25 PPM
R23 221OHM 1%
C21 10uF 35V
+7V
C12 .1UF
U1-E
LT1053CS
C14 .1UF
U2-E
C13 .1UF
C15 .1UF
C16 .1UF
U3-E
C17 .1UF
-7V
+5VREF
R21 100K 1% 25 PPM
THERM
DET2
C11 .1UF
U1-B
THERM_AMP
U1-D
U6-A
CLEAN_THERM_AMP

REV.	DESCRIPTION	BY	DATE
F	PER ECN NO. 7661	ALH	02MAR00
E	PER ECN NO. 7256	ALH	23JUN99
D	PER ECN NO. 7194M	SLC	25MAY99
C	PER ECN NO. 6851	ALH	14DEC98
B	PER ECN NO. 6806M	SLC	27AUG98
A	RELEASED PER ECN #6618	SLC	13MAY98

DRAWN: J.NABORS	DATED: 03SEP97
CHECKED:	DATED:
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

COMPANY: Invivo Research, Inc.
12601 Research Parkway Orlando, Florida 32826

TITLE: SCHEMATIC: AB114
PCA, AGENTS I.D.

PCB	SIZE:	DRAWING NO:	REV:
B183	C	185C222	F

SCALE: NONE SHEET: 1 OF 3

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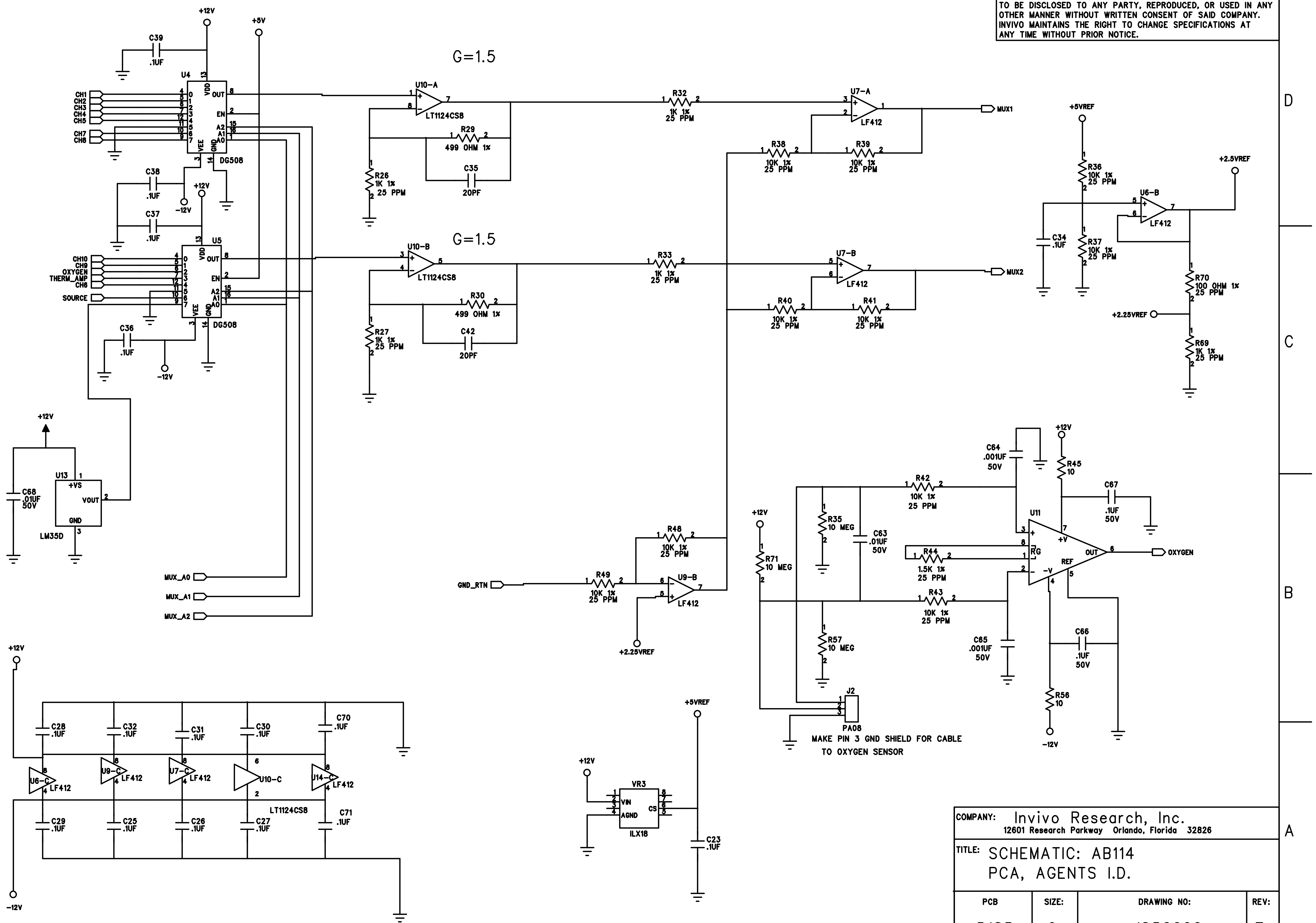
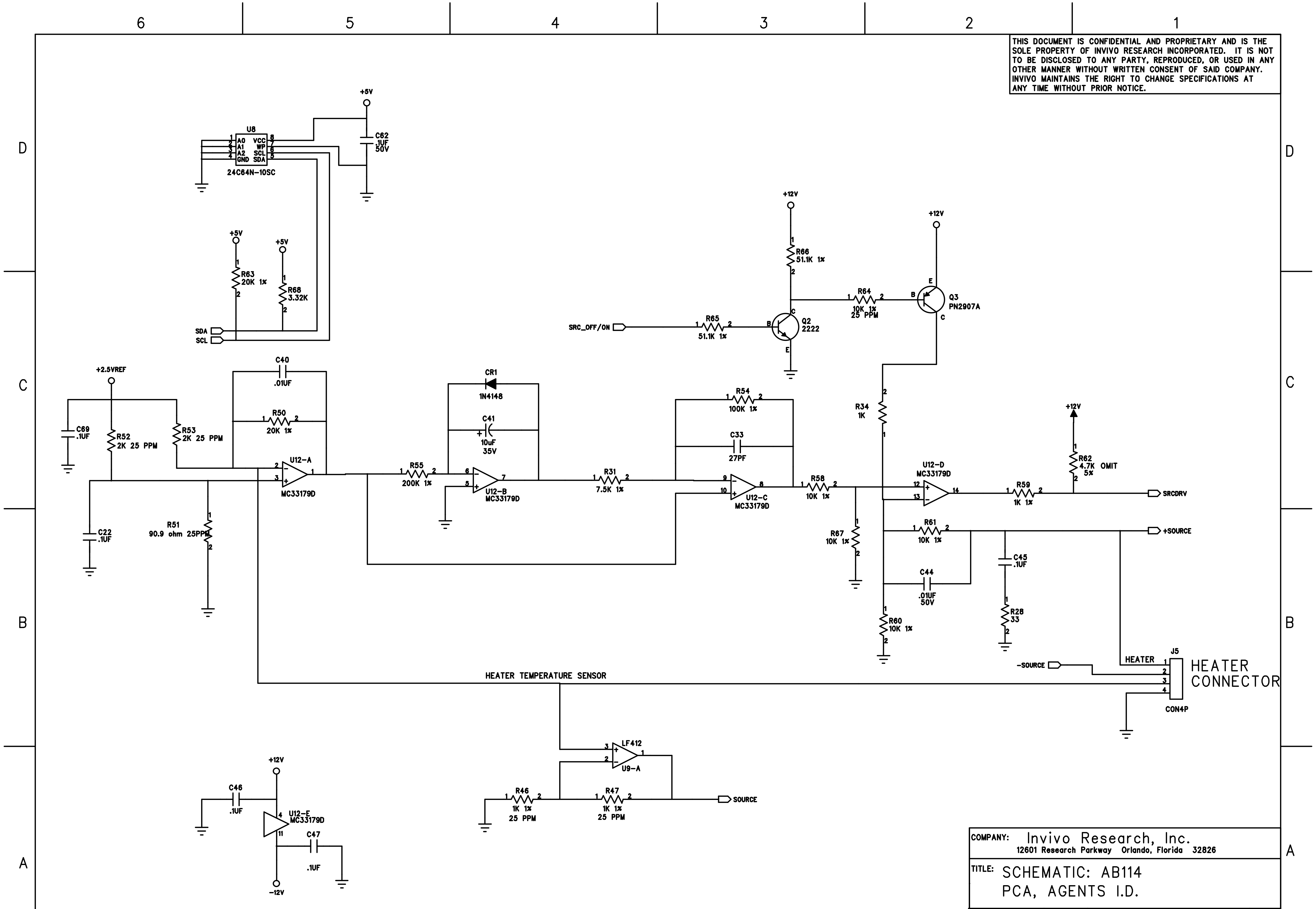

6
5
4
3
2
1
D
C
B
A
G=1.5
G=1.5
U4
DG508
U5
DG508
CH1
CH2
CH3
CH4
CH5
CH7
CH8
CH10
CH9
OXYGEN
THERM_AMP
CH6
SOURCE
+12V
+5V
-12V
C39 .1UF
C38 .1UF
C37 .1UF
C36 .1UF
VDD
OUT
EN
A2
A1
A0
VEE
GND
U10-A
LT1124CS8
U10-B
LT1124CS8
R29 499 OHM 1%
C35 20PF
R26 1K 1% 25 PPM
R30 499 OHM 1%
C42 20PF
R27 1K 1% 25 PPM
R32 1K 1% 25 PPM
R33 1K 1% 25 PPM
U7-A
LF412
U7-B
LF412
R38 10K 1% 25 PPM
R39 10K 1% 25 PPM
R40 10K 1% 25 PPM
R41 10K 1% 25 PPM
MUX1
MUX2
+5VREF
R36 10K 1% 25 PPM
R37 10K 1% 25 PPM
C34 .1UF
U6-B
LF412
+2.5VREF
R70 100 OHM 1% 25 PPM
+2.25VREF
R69 1K 1% 25 PPM
U13
+VS
VOUT
GND
LM35D
C68 .01UF 50V
MUX_A0
MUX_A1
MUX_A2
GND_RTN
R49 10K 1% 25 PPM
R48 10K 1% 25 PPM
U9-B
LF412
+2.25VREF
R71 10 MEG
R35 10 MEG
C63 .01UF 50V
R57 10 MEG
R42 10K 1% 25 PPM
R44 1.5K 1% 25 PPM
R43 10K 1% 25 PPM
C64 .001UF 50V
C65 .001UF 50V
R45 10
C67 .1UF 50V
U11
RG
REF
OUT
OXYGEN
C66 .1UF 50V
R56 10
J2
PA08
MAKE PIN 3 GND SHIELD FOR CABLE TO OXYGEN SENSOR
C28 .1UF
C32 .1UF
C31 .1UF
C30 .1UF
C70 .1UF
U6-C LF412
U9-C LF412
U7-C LF412
U10-C LT1124CS8
U14-C LF412
C29 .1UF
C25 .1UF
C26 .1UF
C27 .1UF
C71 .1UF
VR3
VIN
AGND
CS
ILX18
C23 .1UF

COMPANY: Invivo Research, Inc.
12601 Research Parkway Orlando, Florida 32826

TITLE: SCHEMATIC: AB114
PCA, AGENTS I.D.

PCB	SIZE:	DRAWING NO:	REV:
B183	C	185C222	F

SCALE: NONE SHEET: 2 OF 3


6
5
4
3
2
1
D
C
B
A
+5V
U8
A0 VCC
A1 WP
A2 SCL
GND SDA
24C64N-10SC
C62
.1UF
50V
+5V
+5V
R63
20K 1%
R68
3.32K
SDA
SCL
+12V
R66
51.1K 1%
SRC_OFF/ON
R65
51.1K 1%
Q2
2222
+12V
R64
10K 1%
25 PPM
Q3
PN2907A
+2.5VREF
C40
.01UF
R50
20K 1%
C69
.1UF
R52
2K 25 PPM
R53
2K 25 PPM
U12-A
MC33179D
C22
.1UF
R51
90.9 ohm 25PPM
CR1
1N4148
C41
10uF
35V
R55
200K 1%
U12-B
MC33179D
R31
7.5K 1%
R54
100K 1%
C33
27PF
U12-C
MC33179D
R34
1K
R58
10K 1%
R67
10K 1%
+12V
R62
4.7K OMIT
5%
U12-D
MC33179D
R59
1K 1%
SRCDRV
R61
10K 1%
+SOURCE
C45
.1UF
C44
.01UF
50V
R28
33
R60
10K 1%
HEATER
J5
-SOURCE
HEATER
CONNECTOR
CON4P
HEATER TEMPERATURE SENSOR
LF412
U9-A
R46
1K 1%
25 PPM
R47
1K 1%
25 PPM
SOURCE
+12V
C46
.1UF
U12-E
MC33179D
C47
.1UF
-12V

COMPANY: Invivo Research, Inc.
12601 Research Parkway Orlando, Florida 32826

TITLE: SCHEMATIC: AB114
PCA, AGENTS I.D.

PCB	SIZE:	DRAWING NO:	REV:
B183	C	185C222	F

SCALE: NONE SHEET: 3 OF 3

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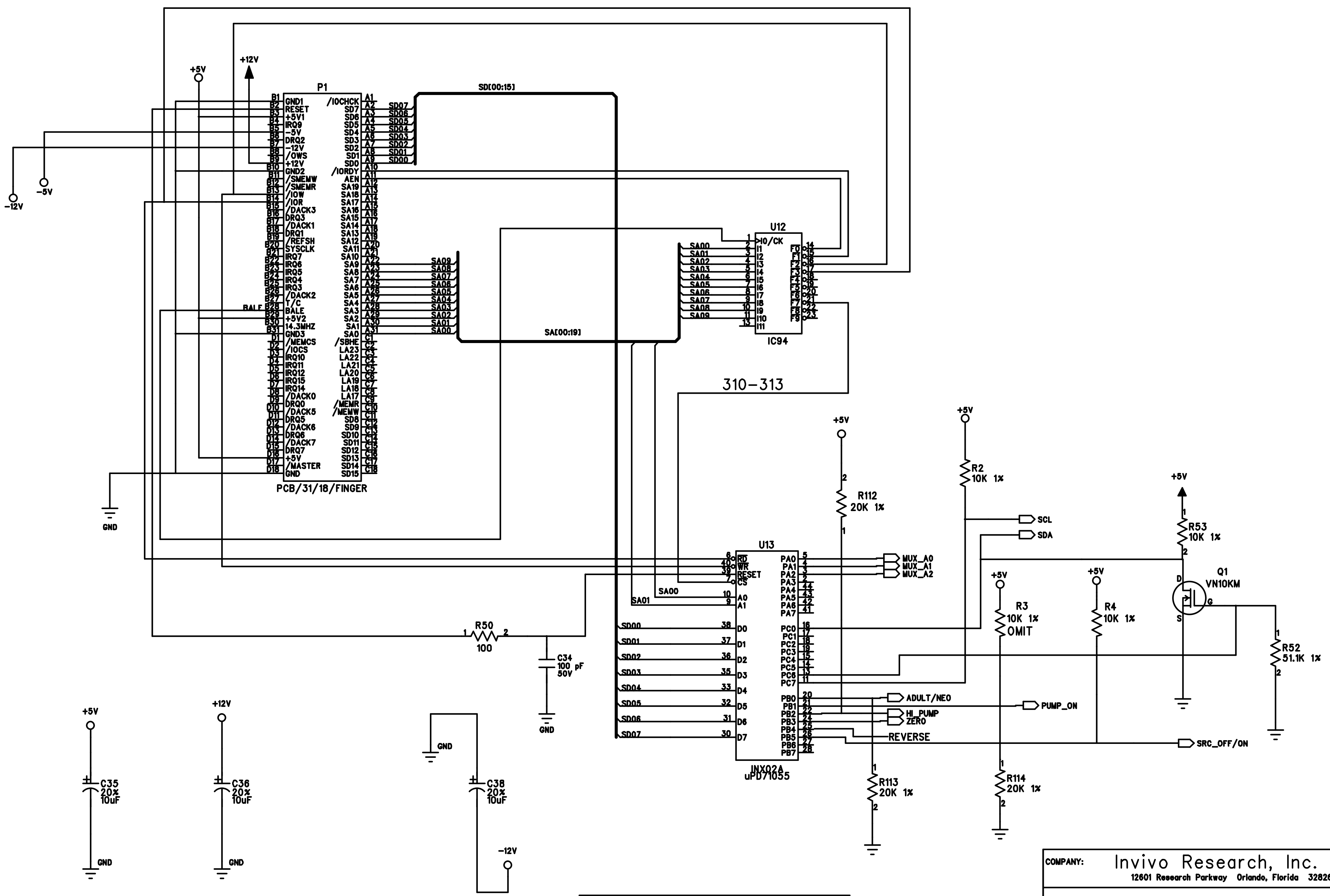

P1
PCB/31/18/FINGER
SD[00:15]
SA[00:19]
U12
IC94
310-313
U13
uPD71055
R112
20K 1%
R2
10K 1%
SCL
SDA
MUX_A0
MUX_A1
MUX_A2
R53
10K 1%
Q1
VN10KM
R3
10K 1%
OMIT
R4
10K 1%
R52
51.1K 1%
R50
100
C34
100 pF
50V
ADULT/NEO
PUMP_ON
HI_PUMP
ZERO
REVERSE
SRC_OFF/ON
R113
20K 1%
R114
20K 1%
C35
20%
10uF
C36
20%
10uF
C38
20%
10uF
+5V
+12V
-5V
-12V
GND

REV.	DESCRIPTION	BY	DATE
E	PER ECN #7474	ALH	27DEC99
D	PER ECN #7191M	SLC	14MAY99
C	PER ECN #6960	ALH	12DEC98
B	PER ECN #6805M	SLC	27AUG98
A	RELEASED,PER ECN #6618	SLC	20MAY98

DRAWN: J.NABORS	DATED: 20SEPT97
CHECKED:	DATED:
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

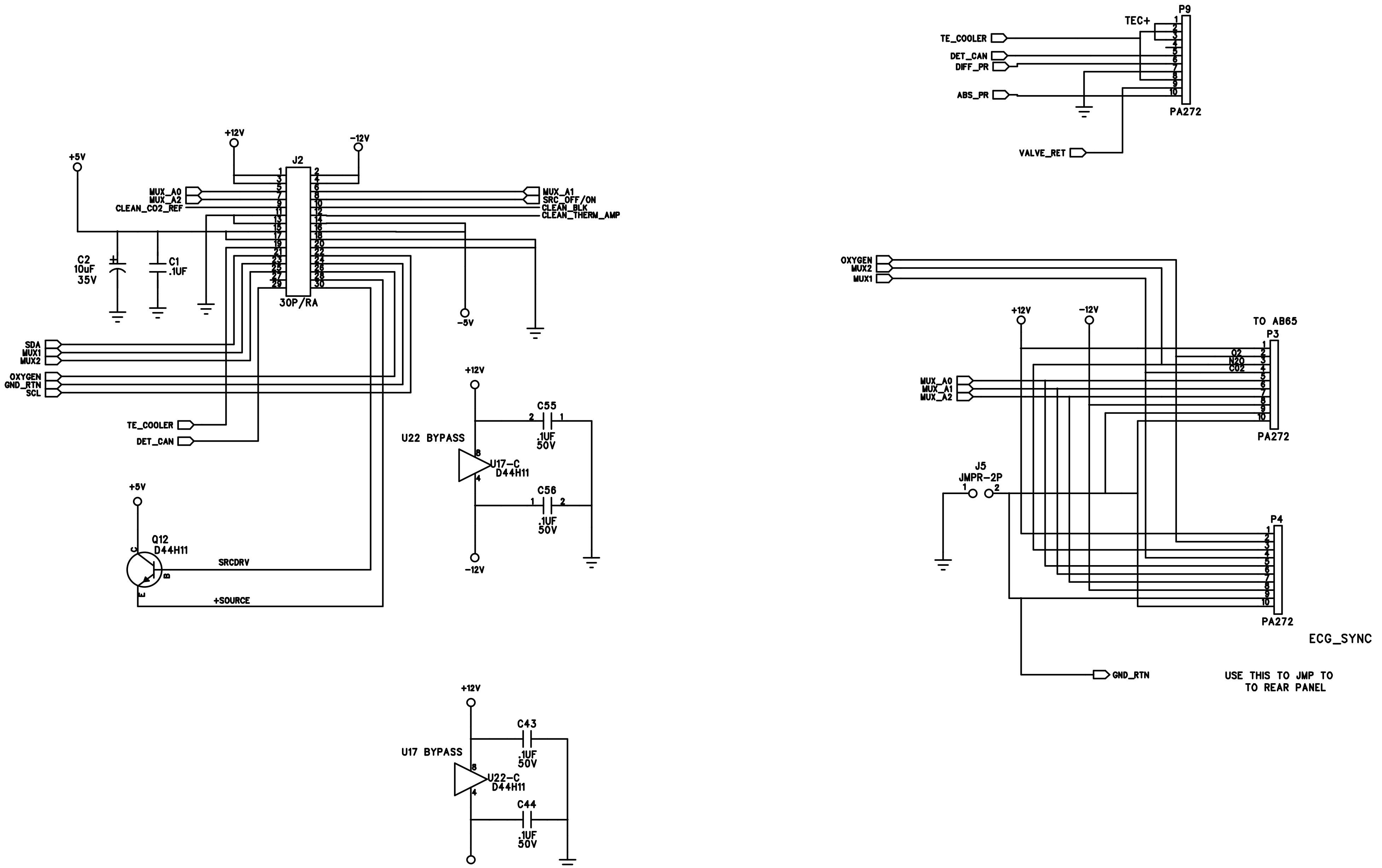
COMPANY: Invivo Research, Inc.
12601 Research Parkway Orlando, Florida 32826

TITLE: SCHEMATIC: AB117 PCA, AGENTS PNEUMATICS CONTROLLER,3500

CODE:	SIZE:	DRAWING NO:	REV:
B186	C	185C225	E

SCALE: NONE

SHEET: 1 OF 3


6
5
4
3
2
1
D
C
B
A
P9
TEC+
TE_COOLER
DET_CAN
DIFF_PR
ABS_PR
VALVE_RET
PA272
+5V
+12V
-12V
J2
MUX_A0
MUX_A2
CLEAN_CO2_REF
MUX_A1
SRC_OFF/ON
CLEAN_BLK
CLEAN_THERM_AMP
C2
10uF
35V
C1
.1UF
30P/RA
-5V
SDA
MUX1
MUX2
OXYGEN
GND_RTN
SCL
TE_COOLER
DET_CAN
Q12
D44H11
SRCDRV
+SOURCE
U22 BYPASS
U17-C
D44H11
C55
.1UF
50V
C56
.1UF
50V
U17 BYPASS
U22-C
D44H11
C43
.1UF
50V
C44
.1UF
50V
OXYGEN
MUX2
MUX1
TO AB65
P3
O2
N2O
CO2
MUX_A0
MUX_A1
MUX_A2
PA272
J5
JMPR-2P
P4
PA272
ECG_SYNC
GND_RTN
USE THIS TO JMP TO
TO REAR PANEL

COMPANY: Invivo Research, Inc.
12601 Research Parkway Orlando, Florida 32826

TITLE: SCHEMATIC: AB117 PCA, AGENTS
PNEUMATICS CONTROLLER, 3500

CODE:	SIZE:	DRAWING NO:	REV:
B186	C	185C225	E

SCALE: NONE
SHEET: 2 OF 3

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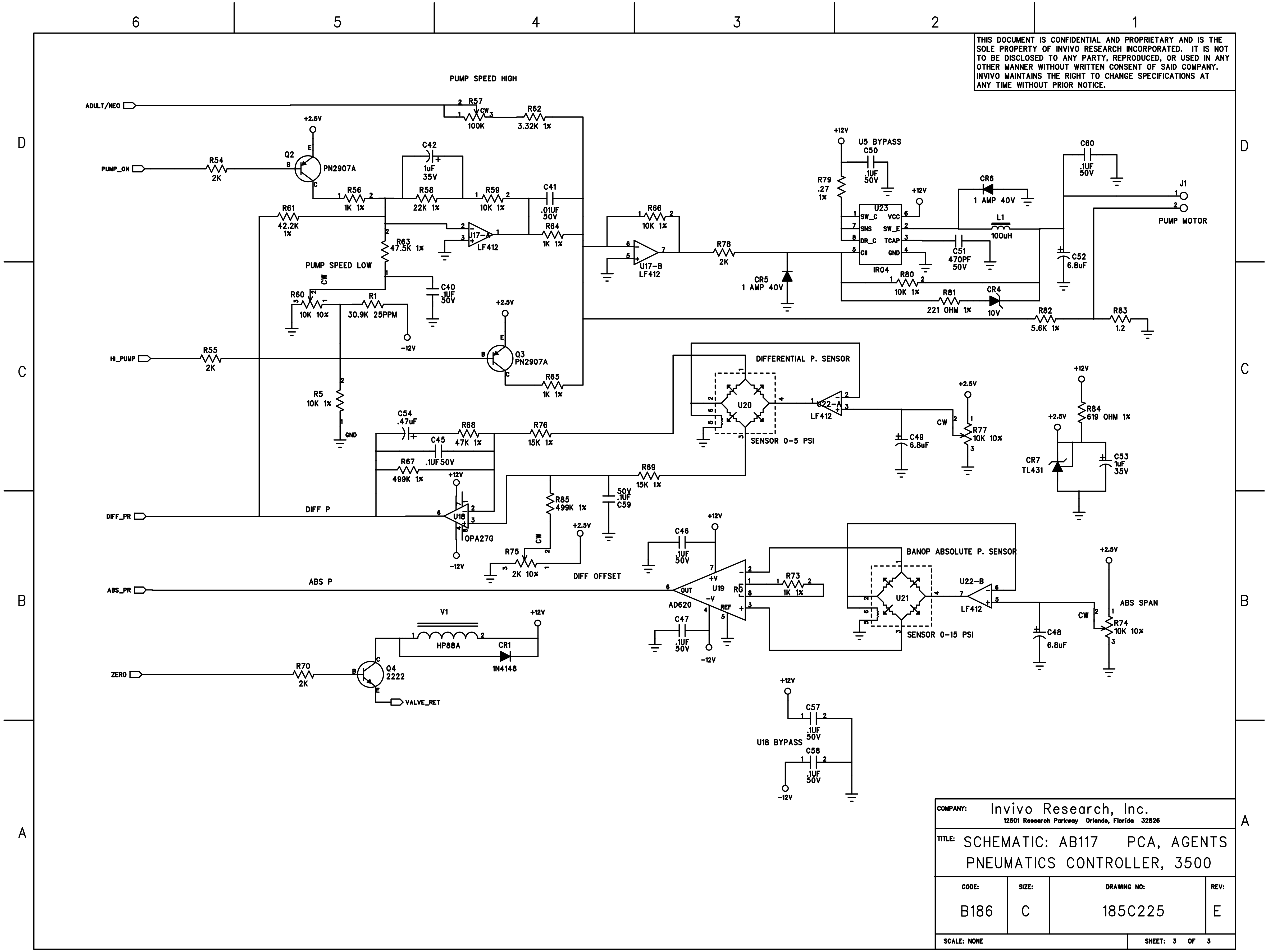
6
5
4
3
2
1
D
C
B
A
PUMP SPEED HIGH
ADULT/NEO
R57 100K CW
R62 3.32K 1%
+2.5V
Q2 PN2907A
PUMP_ON
R54 2K
C42 1uF 35V
R56 1K 1%
R58 22K 1%
R59 10K 1%
C41 .01UF 50V
R61 42.2K 1%
U17-A LF412
R64 1K 1%
R63 47.5K 1%
PUMP SPEED LOW
C40 .1UF 50V
R60 10K 10%
R1 30.9K 25PPM
-12V
HI_PUMP
R55 2K
Q3 PN2907A
R65 1K 1%
R5 10K 1%
GND
R66 10K 1%
U17-B LF412
R78 2K
CR5 1 AMP 40V
+12V
U5 BYPASS
C50 .1UF 50V
R79 .27 1%
U23 IR04
SW_C
SNS
DR_C
CII
VCC
SW_E
TCAP
GND
C51 470PF 50V
CR6 1 AMP 40V
L1 100uH
C60 .1UF 50V
J1
PUMP MOTOR
C52 6.8uF
R80 10K 1%
R81 221 OHM 1%
CR4 10V
R82 5.6K 1%
R83 1.2
DIFFERENTIAL P. SENSOR
U20
SENSOR 0-5 PSI
U22-A LF412
C49 6.8uF
R77 10K 10%
+12V
R84 619 OHM 1%
CR7 TL431
C53 1uF 35V
C54 .47uF
R68 47K 1%
R76 15K 1%
C45 .1UF50V
R67 499K 1%
U18 OPA27G
R85 499K 1%
C59 .1UF 50V
R69 15K 1%
DIFF_PR
DIFF P
R75 2K 10%
DIFF OFFSET
C46 .1UF 50V
U19 AD620
OUT
RG
REF
R73 1K 1%
C47 .1UF 50V
BANOP ABSOLUTE P. SENSOR
U21
SENSOR 0-15 PSI
U22-B LF412
C48 6.8uF
ABS SPAN
R74 10K 10%
ABS_PR
ABS P
V1 HP88A
CR1 1N4148
ZERO
R70 2K
Q4 2222
VALVE_RET
U18 BYPASS
C57 .1UF 50V
C58 .1UF 50V

COMPANY: Invivo Research, Inc.
12601 Research Parkway Orlando, Florida 32826

TITLE: SCHEMATIC: AB117 PCA, AGENTS PNEUMATICS CONTROLLER, 3500

CODE:	SIZE:	DRAWING NO:	REV:
B186	C	185C225	E

SCALE: NONE SHEET: 3 OF 3

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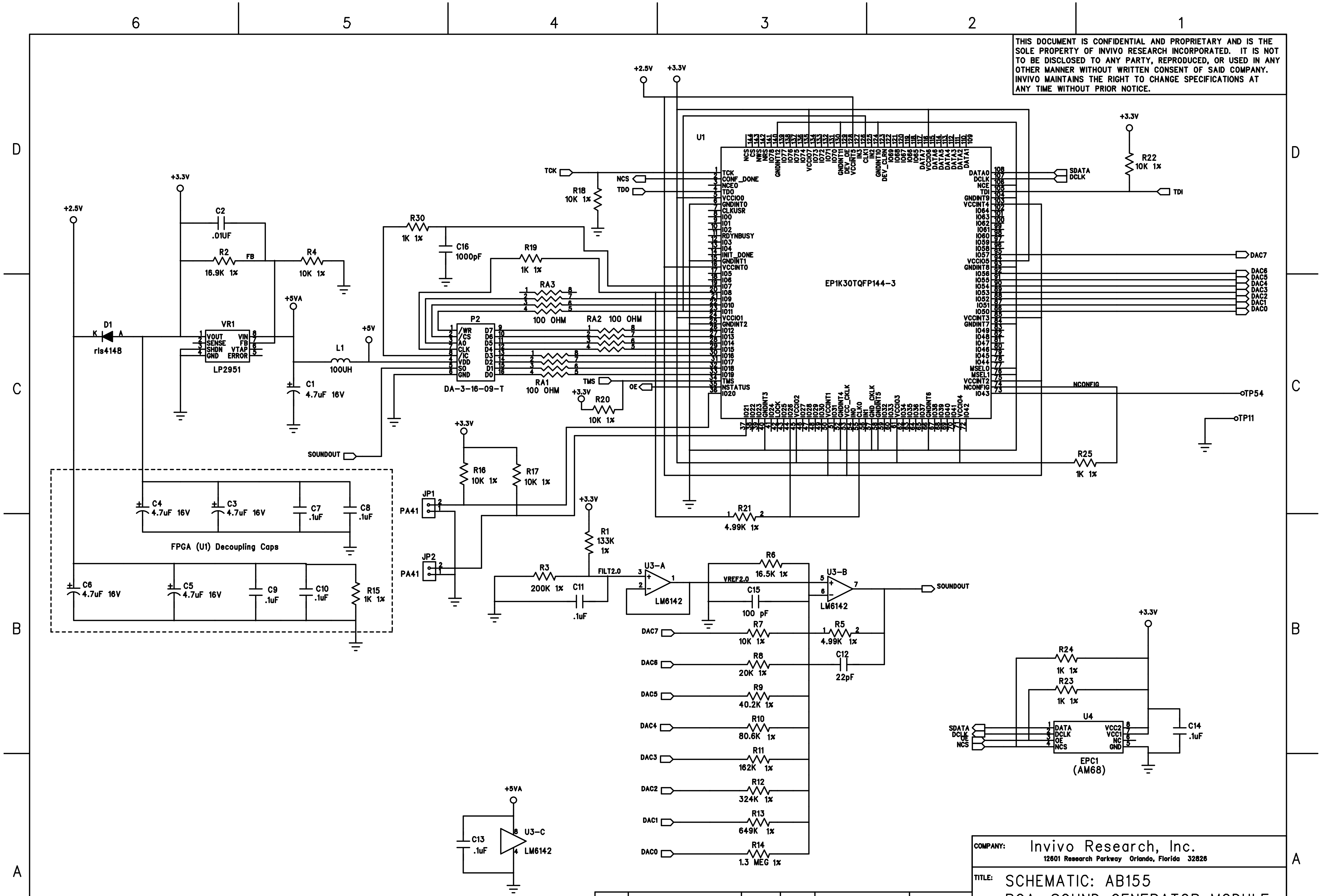
6
5
4
3
2
1
D
C
B
A
+2.5V
+3.3V
+5VA
+5V
U1
EP1K30TQFP144-3
TCK
NCS
TDO
TMS
OE
SDATA
DCLK
TDI
DAC7
DAC6
DAC5
DAC4
DAC3
DAC2
DAC1
DAC0
NCONFIG
TP54
TP11
R18 10K 1%
R22 10K 1%
R30 1K 1%
C16 1000pF
R19 1K 1%
RA3 100 OHM
RA2 100 OHM
RA1 100 OHM
P2
DA-3-16-09-T
/WR
/CS
A0
CLK
/IC
VDD
SO
GND
D7
D6
D5
D4
D3
D2
D1
D0
R20 10K 1%
R25 1K 1%
R21 4.99K 1%
D1
K
A
rls4148
VR1
LP2951
VOUT
SENSE
SHDN
GND
VIN
FB
VTAP
ERROR
C2 .01UF
R2 16.9K 1%
FB
R4 10K 1%
L1 100UH
C1 4.7uF 16V
SOUNDOUT
R16 10K 1%
R17 10K 1%
JP1
JP2
PA41
C4 4.7uF 16V
C3 4.7uF 16V
C7 .1uF
C8 .1uF
FPGA (U1) Decoupling Caps
C6 4.7uF 16V
C5 4.7uF 16V
C9 .1uF
C10 .1uF
R15 1K 1%
R1 133K 1%
R3 200K 1%
C11 .1uF
FILT2.0
U3-A
LM6142
R6 16.5K 1%
VREF2.0
C15 100 pF
U3-B
LM6142
R7 10K 1%
R8 20K 1%
R9 40.2K 1%
R10 80.6K 1%
R11 162K 1%
R12 324K 1%
R13 649K 1%
R14 1.3 MEG 1%
R5 4.99K 1%
C12 22pF
R24 1K 1%
R23 1K 1%
U4
EPC1 (AM68)
DATA
DCLK
OE
NCS
VCC2
VCC1
NC
GND
C14 .1uF
C13 .1uF
U3-C
LM6142

REV.	DESCRIPTION	BY	DATE
B	PER ECN NO. 8208	SLC	08FEB01
A	RELEASE PER ECN #7921	ALH	23JAN01

DRAWN: S. FISHER
DATED: 25JUL00
CHECKED:
DATED:
QUALITY CONTROL:
DATED:
RELEASED:
DATED:

COMPANY: Invivo Research, Inc.
12601 Research Parkway Orlando, Florida 32826

TITLE: SCHEMATIC: AB155
PCA, SOUND GENERATOR MODULE

PCB:	SIZE:	DRAWING NO:	REV:
B209	C	185C252	B

SCALE: NONE
SHEET: 1 OF 1

ECN5877

LF23 REV. A

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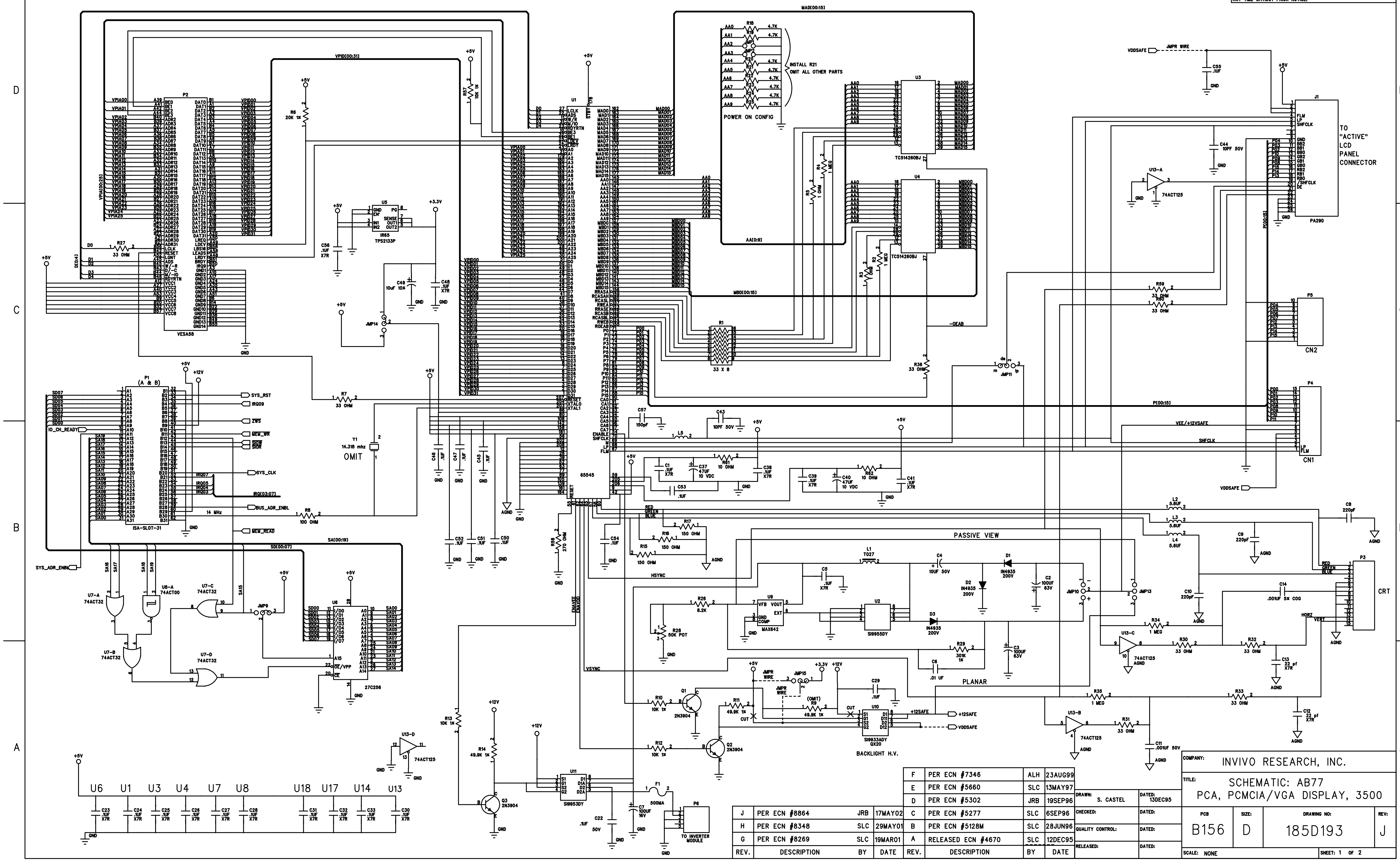
6
5
4
3
2
1
D
C
B
A
P2
VESA58
P1
(A & B)
ISA-SLOT-31
U1
65545
U3
TC514260BJ
U4
TC514260BJ
U5
TPS2133P
U6
27C256
U7-A
74ACT32
U7-B
74ACT32
U7-C
74ACT32
U7-D
74ACT32
U8-A
74ACT00
U9
MAX642
U2
SI9955DY
U10
SI9933ADY
QX20
U11
SI9953DY
U13-A
U13-B
U13-C
U13-D
74ACT125
Q1
Q2
Q3
2N3904
Y1
14.318 mhz
OMIT
R1
33 X 8
POWER ON CONFIG
INSTALL R21
OMIT ALL OTHER PARTS
MAD(00:15)
MBD(00:15)
AA(0:9)
VPID(00:31)
VPIA(00:25)
SA(00:19)
SD(00:07)
P(00:15)
J1
PA290
TO
"ACTIVE"
LCD
PANEL
CONNECTOR
P5
CN2
P4
CN1
P3
CRT
P6
TO INVERTER MODULE
PASSIVE VIEW
PLANAR
BACKLIGHT H.V.
SYS_RST
IRQ09
ZWS
MEM_WR
SYS_CLK
BUS_ADR_ENBL
MEM_READ
SYS_ADR_ENBL
IO_CH_READY
+12SAFE
VDDSAFE
JMPR WIRE
VEE/+12VSAFE
SHFCLK
HSYNC
VSYNC
RED
GREEN
BLUE
HORZ
VERT
F1
500MA
U6
U1
U3
U4
U7
U8
U18
U17
U14
U13
+5V
+12V
+3.3V
GND
AGND

F	PER ECN #7346	ALH	23AUG99
E	PER ECN #5660	SLC	13MAY97
D	PER ECN #5302	JRB	19SEP96
C	PER ECN #5277	SLC	6SEP96
B	PER ECN #5128M	SLC	28JUN96
A	RELEASED ECN #4670	SLC	12DEC95
REV.	DESCRIPTION	BY	DATE

J	PER ECN #8864	JRB	17MAY02
H	PER ECN #8348	SLC	29MAY01
G	PER ECN #8269	SLC	19MAR01
REV.	DESCRIPTION	BY	DATE

DRAWN: S. CASTEL
DATED: 13DEC95
CHECKED:
DATED:
QUALITY CONTROL:
DATED:
RELEASED:
DATED:

COMPANY: INVIVO RESEARCH, INC.
TITLE: SCHEMATIC: AB77
PCA, PCMCIA/VGA DISPLAY, 3500
PCB: B156
SIZE: D
DRAWING NO: 185D193
REV: J
SCALE: NONE
SHEET: 1 OF 2

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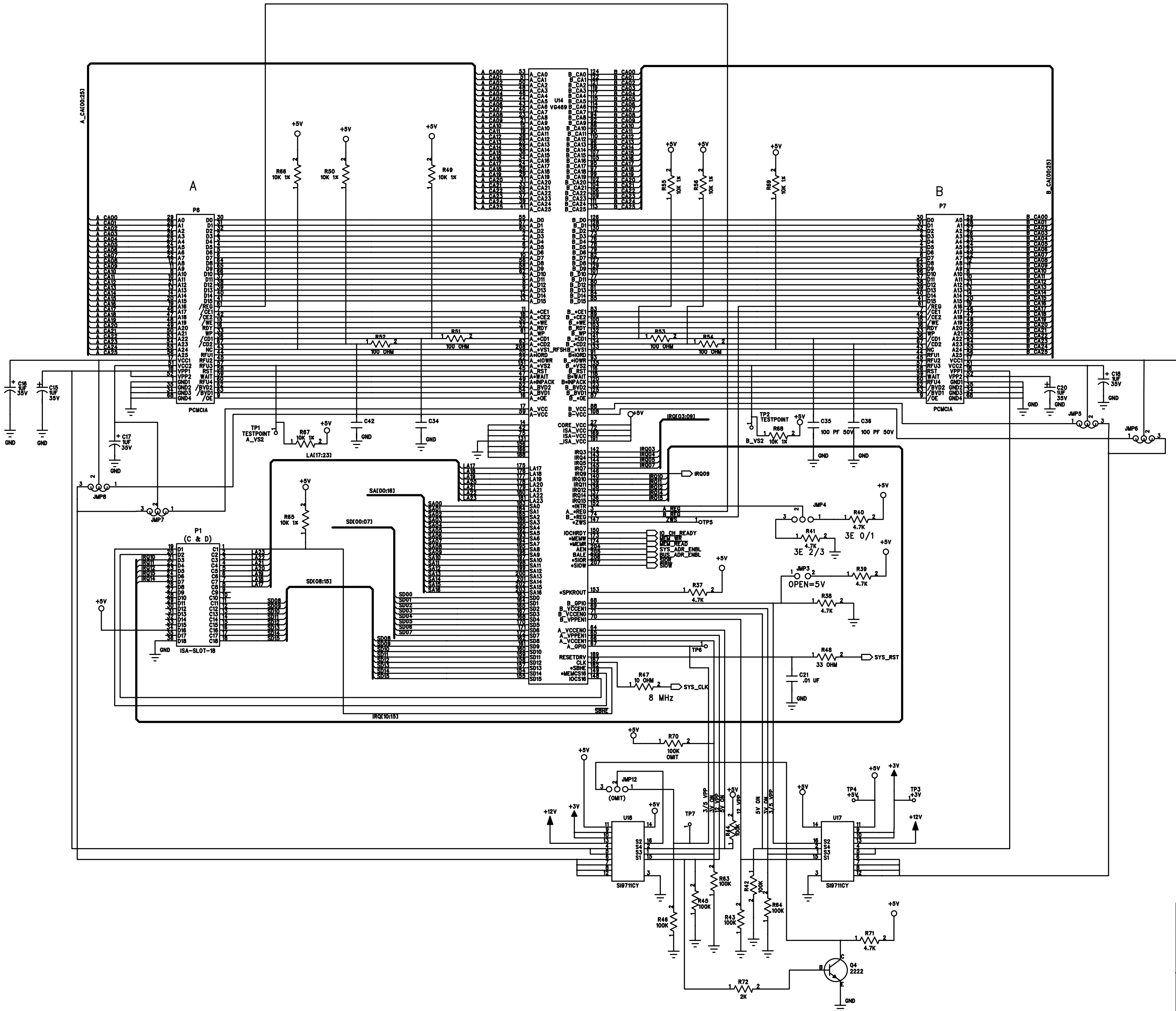

6
5
4
3
2
1
D
C
B
A
U14 VG469
A
P8
PCMCIA
B
P7
PCMCIA
A_CA[00:25]
B_CA[00:25]
R66 10K 1%
R50 10K 1%
R49 10K 1%
R55 10K 1%
R56 10K 1%
R69 10K 1%
R52 100 OHM
R51 100 OHM
R53 100 OHM
R54 100 OHM
C16 1UF 35V
C15 1UF 35V
C17 1UF 35V
C18 1UF 35V
C19 1UF 35V
C20 1UF 35V
C42
C34
C35 100 PF 50V
C36 100 PF 50V
TP1 TESTPOINT A_VS2
TP2 TESTPOINT B_VS2
R67 10K 1%
R68 10K 1%
LA[17:23]
SA[00:16]
SD[00:07]
SD[08:15]
IRQ[03:09]
IRQ[10:15]
IRQ09
R65 10K 1%
P1 (C & D)
ISA-SLOT-16
JMP8
JMP7
JMP5
JMP6
JMP4
3E 2/3
3E 0/1
R40 4.7K
R41 4.7K
JMP3
OPEN=5V
R39 4.7K
R38 4.7K
R37 4.7K
+SPKROUT
R48 33 OHM
SYS_RST
C21 .01 UF
R47 10 OHM
SYS_CLK
8 MHz
OTP5
TP6
R70 100K OMIT
JMP12 (OMIT)
U18 SI9711CY
U17 SI9711CY
TP7
TP4 +5V
TP3 +3V
R63 100K
R45 100K
R46 100K
R42 20K
R43 100K
R64 100K
R71 4.7K
Q4 2222
R72 2K
+5V
+3V
+12V
GND

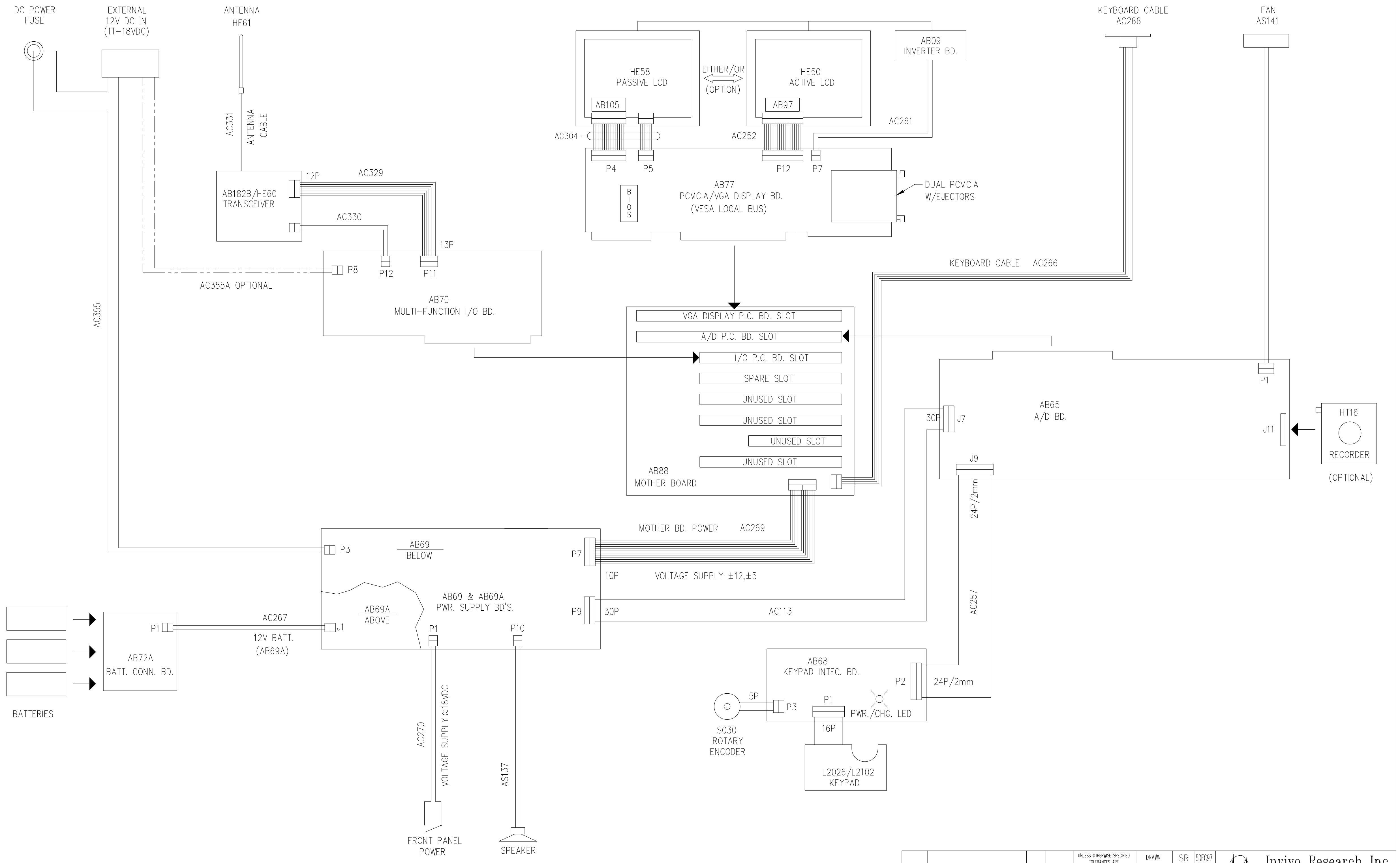
COMPANY: Invivo Research, Inc.

TITLE: SCHEMATIC: AB77
PCA, PCMCIA/VGA DISPLAY, 3500

BOBE:	SIZE:	DRAWING NO:	REV:
B156	D	185D193	J

SCALE: NONE

SHEET: 2 OF 2


DC POWER FUSE
EXTERNAL 12V DC IN (11–18VDC)
ANTENNA HE61
AC331
ANTENNA CABLE
AB182B/HE60 TRANSCEIVER
12P
AC329
AC330
13P
P8
P12
P11
AC355A OPTIONAL
AB70 MULTI-FUNCTION I/O BD.
AC355
HE58 PASSIVE LCD
AB105
EITHER/OR
(OPTION)
HE50 ACTIVE LCD
AB97
AB09 INVERTER BD.
AC261
AC304
AC252
P4
P5
P12
P7
AB77 PCMCIA/VGA DISPLAY BD. (VESA LOCAL BUS)
BIOS
DUAL PCMCIA W/EJECTORS
KEYBOARD CABLE AC266
FAN AS141
KEYBOARD CABLE AC266
VGA DISPLAY P.C. BD. SLOT
A/D P.C. BD. SLOT
I/O P.C. BD. SLOT
SPARE SLOT
UNUSED SLOT
UNUSED SLOT
UNUSED SLOT
UNUSED SLOT
AB88 MOTHER BOARD
P1
AB65 A/D BD.
30P
J7
J11
J9
HT16
RECORDER
(OPTIONAL)
24P/2mm
MOTHER BD. POWER AC269
AB69 BELOW
P3
P7
10P
VOLTAGE SUPPLY ±12,±5
AB69A ABOVE
AB69 & AB69A PWR. SUPPLY BD'S.
P9
30P
AC113
AC257
AC267
12V BATT. (AB69A)
P1
J1
AB72A BATT. CONN. BD.
BATTERIES
P1
P10
AC270
VOLTAGE SUPPLY ≅18VDC
AS137
FRONT PANEL POWER
SPEAKER
AB68 KEYPAD INTFC. BD.
P2
24P/2mm
5P
P3
P1
PWR./CHG. LED
16P
S030 ROTARY ENCODER
L2026/L2102 KEYPAD

C	PER ECN #8394	SR	31AUG01
B	PER ECN #8114	SR	21MAY01
A	RELEASED, ECN #6226	SR	10-DEC-97
REV.	DESCRIPTION	BY	DATE

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UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± ——
.XXX = ± ——
ANGLES = ± ——

DRAWN	SR	5DEC97
DESIGNED	JB	2DEC97
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
DO NOT SCALE THIS DRAWING !!!

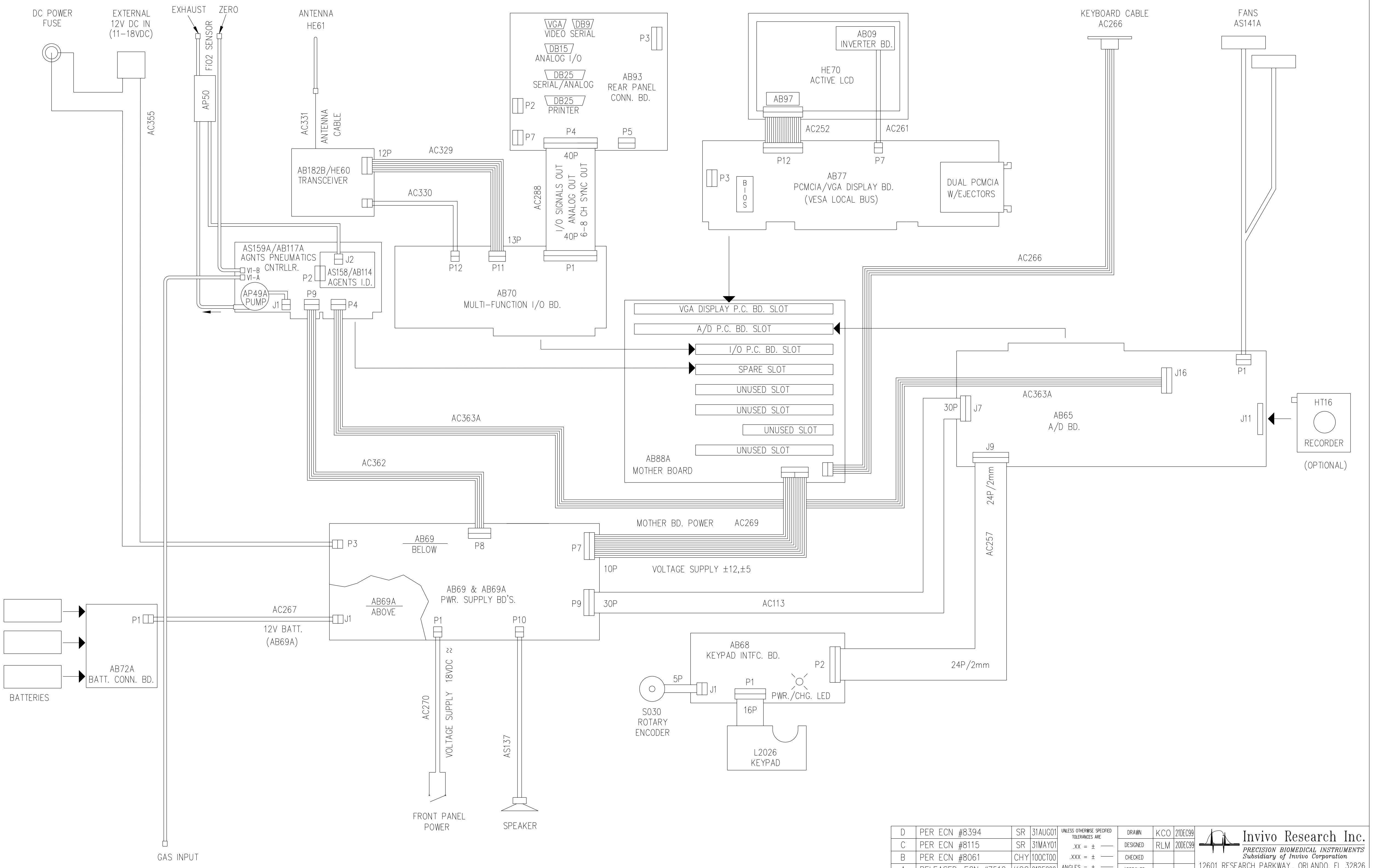
Invivo Research Inc.
PRECISION BIOMEDICAL INSTRUMENTS
Subsidiary of Invivo Corporation
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE: INTRCNCT. DIAGRAM: 3155MVS
MILLENNIA REMOTE DISPLAY CONTROLLER

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
NONE	1 OF 1	190C057	C

ECN5877

LF21 REV. A


DC POWER FUSE
EXTERNAL 12V DC IN (11–18VDC)
EXHAUST
ZERO
FiO2 SENSOR
AP50
AC355
ANTENNA HE61
AC331
ANTENNA CABLE
AB182B/HE60 TRANSCEIVER
12P
AC329
AC330
VGA
DB9
VIDEO
SERIAL
DB15
ANALOG I/O
DB25
SERIAL/ANALOG
DB25
PRINTER
AB93 REAR PANEL CONN. BD.
P3
P2
P7
P4
P5
40P
AC288
I/O SIGNALS OUT
ANALOG OUT
6–8 CH SYNC OUT
40P
13P
AB09 INVERTER BD.
HE70 ACTIVE LCD
AB97
AC252
AC261
P12
P7
P3
BIOS
AB77 PCMCIA/VGA DISPLAY BD. (VESA LOCAL BUS)
DUAL PCMCIA W/EJECTORS
KEYBOARD CABLE AC266
FANS AS141A
AS159A/AB117A AGNTS PNEUMATICS CNTRLLR.
J2
P2
AS158/AB114 AGENTS I.D.
VI-B
VI-A
AP49A PUMP
J1
P9
P4
P12
P11
P1
AB70 MULTI-FUNCTION I/O BD.
AC266
VGA DISPLAY P.C. BD. SLOT
A/D P.C. BD. SLOT
I/O P.C. BD. SLOT
SPARE SLOT
UNUSED SLOT
UNUSED SLOT
UNUSED SLOT
UNUSED SLOT
AB88A MOTHER BOARD
P1
J16
AC363A
30P
J7
AB65 A/D BD.
J11
HT16
RECORDER
(OPTIONAL)
J9
AC363A
AC362
24P/2mm
AC257
MOTHER BD. POWER
AC269
AB69 BELOW
P3
P8
P7
10P
VOLTAGE SUPPLY ±12,±5
AB69A ABOVE
AB69 & AB69A PWR. SUPPLY BD'S.
P9
30P
AC113
P1
AC267
12V BATT. (AB69A)
J1
P1
P10
AB72A BATT. CONN. BD.
BATTERIES
AC270
VOLTAGE SUPPLY 18VDC
AS137
FRONT PANEL POWER
SPEAKER
GAS INPUT
AB68 KEYPAD INTFC. BD.
P2
24P/2mm
5P
J1
P1
PWR./CHG. LED
16P
S030 ROTARY ENCODER
L2026 KEYPAD
ECN5877

REV.	DESCRIPTION	BY	DATE
D	PER ECN #8394	SR	31AUG01
C	PER ECN #8115	SR	31MAY01
B	PER ECN #8061	CHY	10OCT00
A	RELEASED, ECN #7512	KCO	21DEC99

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.XX = ± ——
.XXX = ± ——
ANGLES = ± ——

DRAWN	KCO	21DEC99
DESIGNED	RLM	20DEC99
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
DO NOT SCALE THIS DRAWING !!!

Invivo Research Inc.
PRECISION BIOMEDICAL INSTRUMENTS
Subsidiary of Invivo Corporation
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

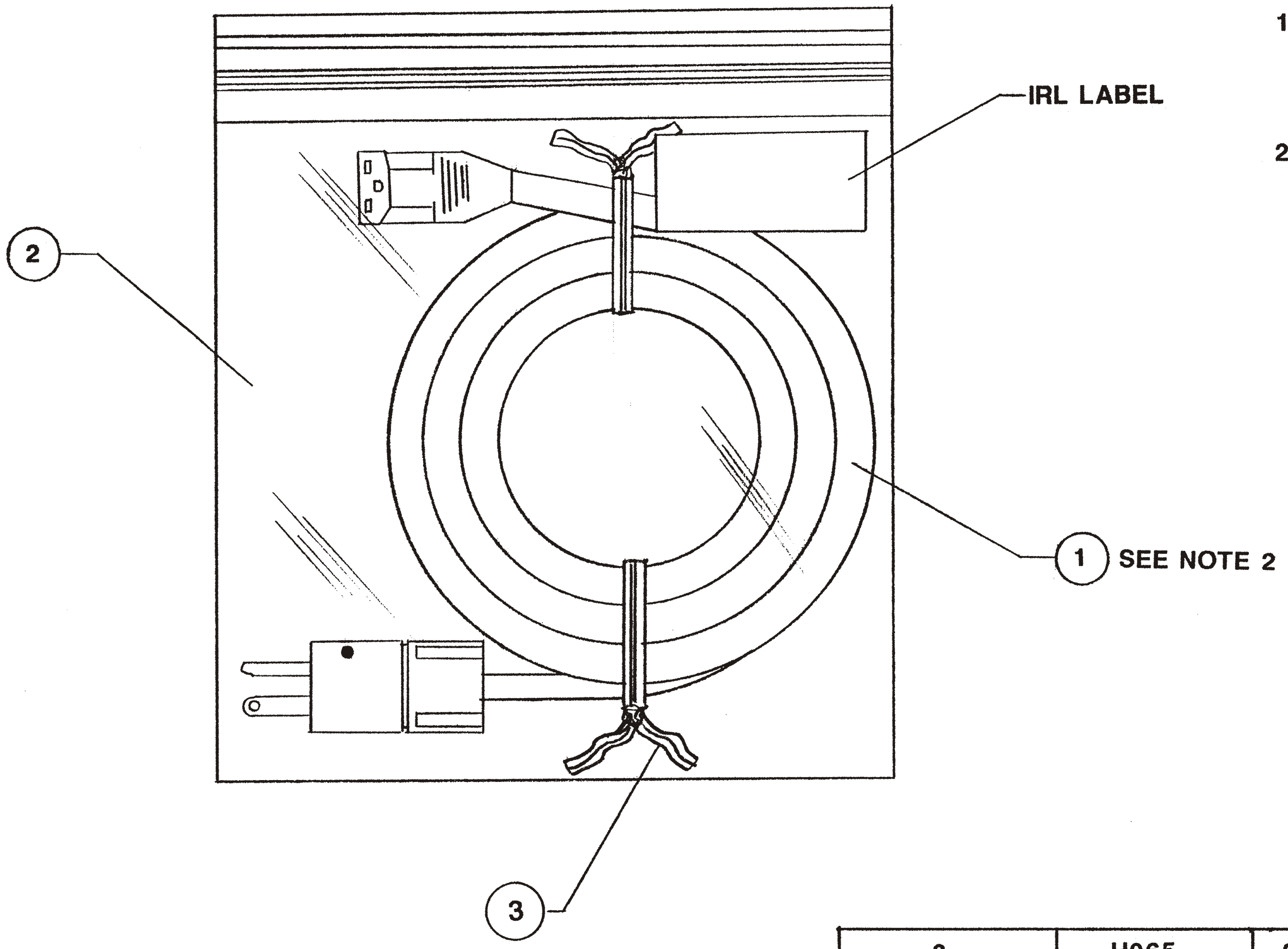
TITLE: INTRCNCT. DIAGRAM: 3155A
MILLENNIA REMOTE MONITOR, AGENTS

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
NONE	1 OF 1	190C062	D

LF21 REV. A

NOTES:

1. AFTER CORD ① HAS BEEN HI-POT TESTED, PLACE IN BAG ② AND PLACE IRL LABEL ON BAG AS SHOWN.
2. MAXIMUM DIAMETER OF COIL TO BE 4 1/2".



3	H065	2	TWIST TIE, PAPER WIRE, 6", WHITE
2	M001C	1	BAG, 8 x 8 x 1.75 MIL.
1	HE02	1	LINE CORD, 110V
LOCATION	PART NO.	QTY.	DESCRIPTION

A	PER ECN NO. 3006	OHY	8/28/91
REV.	DESCRIPTION	BY	DATE

UNLESS SPECIFIED TOLERANCES ARE
X = ±.030
XX = ±.015
XX = ±.005
ANGLES = 1/2 DEGREE
FRACTIONS
<12" = ±1/32 >12" = ±1/16

DRAWN	SLL	8/89
DESIGNED		9/91
CHECKED		9/91
APPROVED		9/91

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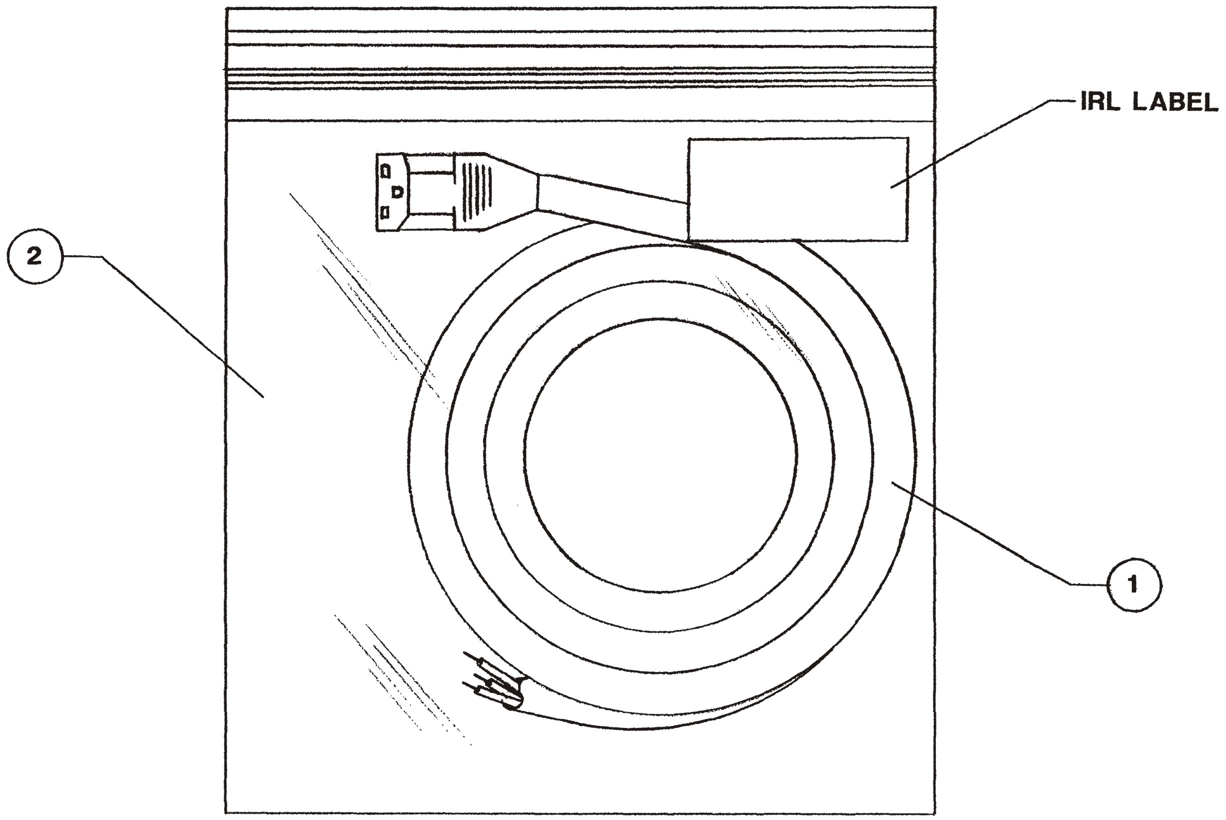
INVIVO RESEARCH INC.
12443 RESEARCH PARKWAY #201
ORLANDO, FLORIDA 32826

TITLE AS18

POWER CORD SET, 110V TESTED

SCALE	SHEET	DWG. NO.	REV.
	1 OF 1	194B479	A

NOTES:
1. PLACE IN BAG ② AND PLACE IRL LABEL ON BAG AS SHOWN.



2	MOO1B	1	BAG, 6" X 6" X 1.15 MIL
1	HEO1	1	LINE CORD, 250V, 6A, (BBS-1308)
LOCATION	PART NO.	QTY.	DESCRIPTION

UNLESS SPECIFIED TOLERANCES ARE
X = ±.030
XX = ±.015
XX = ±.005
ANGLES = 1/2 DEGREE
FRACTIONS
<12" = ±1/32 >12" = ±1/16

DRAWN	SLL	8/89
DESIGNED		
CHECKED		9/89
APPROVED		9/89

INVIVO RESEARCH INC.
12443 RESEARCH PARKWAY #201
ORLANDO, FLORIDA 32826

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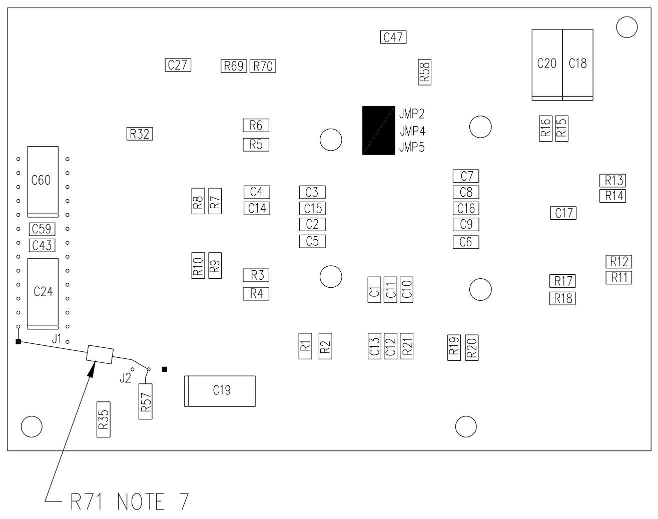
TITLE AS18A
POWER CORD SET, 220V

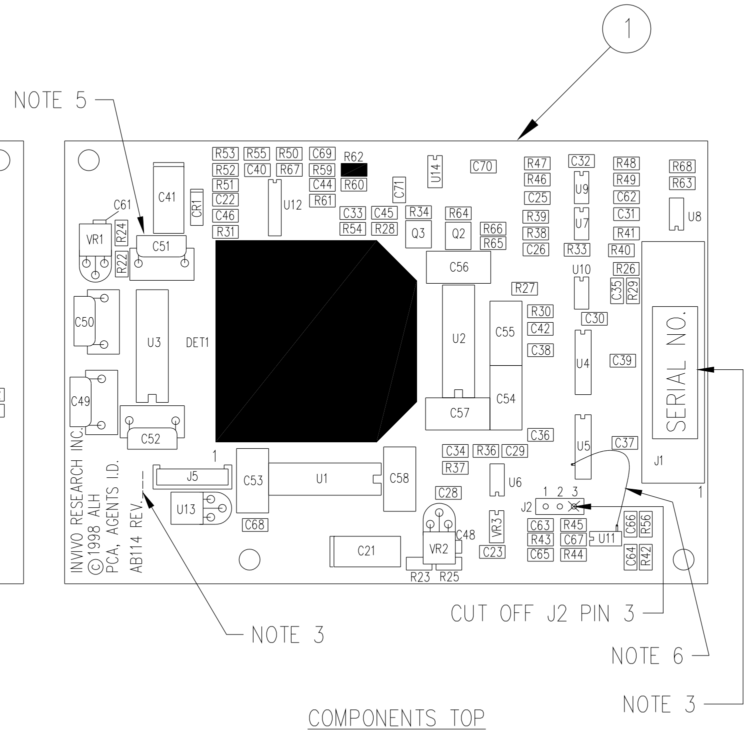
SCALE	SHEET	DWG. NO.	REV.
	1 OF 1	194B480	A

A	PER ECN NO. 3784	CHY	2/10/94
REV.	DESCRIPTION	BY	DATE

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
R71	R150	1	RES, 10 MEG., .25W, 5%, CF
R44	RX325	1	RES, 1.5K, 1%, .1W, 25PPM, 0805
R52,53	RX254	2	RES, 2K, 1%, .1W, 25PPM, 0805
R58,60,61,67	RX250	4	RES, 10K, 1%, .1W, 100PPM, 0805
R54	RX246	1	RES, 100K, 1%, .1W, 100PPM, 0805
R59	RX243	1	RES, 1K, 1%, .1W, 100PPM, 0805
R50,63	RX236	2	RES, 20K, 1%, .1W, 100PPM, 0805
R22,23	RX240	2	RES, 221 OHM, 1%, .1W, 100PPM, 0805
R24-27,32,33,46,47,69	RX239	9	RES, 1K, 1%, .1W, 25PPM, 0805


C47
C27
R69
R70
R58
C20
C18
JMP2
JMP4
JMP5
R32
R6
R5
R16
R15
C60
C4
C14
C3
C15
C2
C5
C7
C8
C16
C9
C6
R13
R14
C17
R8
R7
C59
C43
R10
R9
R3
R4
C24
C1
C11
C10
R12
R11
R17
R18
R1
R2
C13
C12
R21
R19
R20
J1
J2
R57
R35
C19
R71 NOTE 7

COMPONENTS BOTTOM


1
NOTE 5
R53
R55
R50
C69
R62
R52
C40
R67
R59
R60
R51
C44
C22
R61
C46
R31
C61
VR1
R24
R22
C51
C41
CR1
U12
C33
C45
R54
R28
R34
Q3
R64
Q2
R66
R65
C71
U14
C70
R47
R46
C25
R39
R38
C26
C32
U9
U7
R33
R48
R49
C62
C31
R41
R40
R68
R63
U8
C56
U10
R26
C35
R29
R27
C50
U3
DET1
U2
C55
R30
C42
C38
C30
U4
C39
SERIAL NO.
C49
C57
C54
C36
C52
U5
C37
J1
1
C34
R36
C29
R37
1
J5
C53
U1
C58
U6
C28
U13
J2
1 2 3
C63
R45
C66
R56
C48
VR3
R43
C67
U11
VR2
C23
C65
R44
C64
R42
C68
C21
R23
R25
INVIVO RESEARCH INC.
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PCA, AGENTS I.D.
AB114 REV.
NOTE 3
CUT OFF J2 PIN 3
NOTE 6
NOTE 3

COMPONENTS TOP

NOTES:

1. WORKMANSHIP TO CONFORM TO IPC CLASS II REQUIREMENTS.
2. BOARD REQUIRES SERIALIZED LABELING WITH THE FOLLOWING INFORMATION: UNIQUE SERIAL NO., ASSEMBLY P/N & CURRENT REV. LEVEL. PLACE SERIAL NUMBER LABEL IN THIS AREA-ORIENT AS SHOWN.
3. USING INDELIBLE INK IN CONTRASTING COLOR, PLACE CURRENT ASSEMBLY REVISION IN SPACE PROVIDED.
4. COMPONENTS SHOWN AS SOLID ARE TO BE OMITTED.
5. BEND OVER COMPONENTS C49-52, VR1, VR2 AND U13 AS MUCH AS POSSIBLE IN THE DIRECTION SHOWN.
6. COMPONENT SIDE, REF. DES. U5, REMOVE PIN 6 FROM GROUND BY DE-SOLDERING AND LIFTING LEG AWAY FROM SURFACE MOUNT PAD. ADD BLUE JUMPER WIRE P/N W004A OR EQUIVALENT FROM U5, PIN 6 LEG TO U11, PIN 6.
7. ADD P/N R150 RESISTOR (REF. DES. R71) BETWEEN +12V J1-1,3 AND J2-2 ON SOLDERSIDE. ADD HEAT SHRINK TO LEADS TO PREVENT SHORTING. SECURE COMPONENT TO BOARD USING P/N M107 ADHESIVE.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
R65,66	RX238	2	RES, 51.1K, 1%, .1W, 100PPM, 0805
R34	RX224	1	RES, 1K, 5%, .1W, 250PPM, 0805
R29,30	RX242	2	RES, 499 OHM, 1%, .1W, 100PPM, 0805
R68	RX282	1	RES, 3.32K, 1%, .1W, 100PPM, 0805
R36-43,48 49, 64	RX235	11	RES, 10K, 1%, .1W, 25PPM, 0805
R31	RX234	1	RES, 7.5K, 1%, .1W, 100PPM, 0805
R35,R57	RX26	2	RES, 10M, .125W, 5%, 200PPM, 1206
R55	RX232	1	RES, 200K, 1%, .1W, 100PPM, 0805
R1,3,5,7,9,11,13,15,17,19,21	RX231	11	RES, 100K, 1%, .1W, 25PPM, 0805
R2,4,6,8,10,12 14,16,18,20,70	RX230	11	RES, 100 OHM, 1%, .1W, 25PPM, 0805
R28	RX218	1	RES, 33 OHM, 5%, .1W, 250 PPM, 0805
R45,56	RX215	2	RES, 10 OHM, 5%, .1W, 250 PPM, 0805
R51	RX260	1	RES, 90.9 OHM, 1%, .1W, 25PPM, 0805
Q3	QX01	1	TRANSISTOR, CBE PNP, SMALL SIGNAL
Q2	QX00	1	TRANSISTOR, NPN, SILICON, 2222, SOT-23
J5	PA369	1	CONN, 4P, SR, HDR, ST, SHRD, .098 CTRS
J2	PA08	1	HDR, 3P, UNSHRD, SR, ST, (.100)
J1	PA368	1	CONN, 30P, DR, RA, RCPT, PCB MT. (.100)
VR2	IR10	1	REGULATOR, NEGATIVE, LM337LZ
VR1	IR09	1	VREG, POS, LM317LZ, TO-92
U8	IMX12	1	IC,EEPROM,SERIAL CMOS,2WIRE,64K(8192X8)
U10	ILX27	1	IC, OP AMP DUAL LT1124CS8
U12	ILX28	1	IC, OP AMP, QUAD, LOW PWR, MC33179D
VR3	ILX18	1	IC, VREF, +5V, PRECISION, REF02CS
U11	ILX16	1	IC, INSTRUMENTATION AMPLIFIER, AD620BR
U6,7,9,14	ILX10	4	IC, OP AMP, LO-DRIFT, JFET, LF412D
U4,5	ILX06	2	IC, 8 CH., ANALOG, CMOS, MUX, DG508ADY
U1-3	IL63	3	IC, OP AMP, DUAL/QUAD, CHOPPER,14P DIP
U13	IL59	1	SENSOR, TEMP., CENTIGRADE, TO-92
CR1	DDX01	1	DIODE, SIGNAL, LEADLESS, 500MW
C18-21,24,41,60	CXT05	7	CAP, 10 UF, 20%, 35V, D-CASE TANT. CHIP
C64,65	CX60	2	CAP, .001 UF, 10%, 50V, X7R
C40,44,63,68	CX59	4	CAP, .01 UF, 10%, 50V, X7R, 0805
C49-58	CP41	10	CAP, .22 UF, 5%, 50V, LO-PRO, POLYESTER
C33	CX55	1	CAP, 27pF, 10%, 50V, COG, 0805
C35,42	CX57	2	CAP, 20pF, 10%, 50V, COG, 0805
C1-17,22,23,25-32,34,36-39,43,45-48,59,61,62 66,67,69-71	CX58	45	CAP, .1UF,10%,50V,X7R, 0805 CERAMIC CHIP
1	B183	1	PCB, AGENT DETECTOR, 3500 REV. B

REV.	DESCRIPTION	BY	DATE
E	PER ECN #7256	JWT	23JUN99
D	PER ECN #7194M	CHY	25MAY99
C	PER ECN #6851	ALH	10DEC98
B	PER ECN #6806M	KCO	27AUG98
A	RELEASED, ECN 6618	SLC	29MAY98

REV.	DESCRIPTION	BY	DATE
F	PER ECN #7661	CHY	2MAR00

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UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .02
.XXX = ± .010
ANGLES = ± 1°

DRAWN	SLCASTEL	03SEP97
DESIGNED	SLCASTEL	03SEP97
CHECKED		
APPROVED		

INCHES

THIRD ANGLE PROJECTION

DO NOT SCALE THIS DRAWING !!!

Invivo Research Inc.
PRECISION BIOMEDICAL INSTRUMENTS
Subsidiary of Invivo Corporation
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE:
ASSEMBLY: AB114
PCA, AGENT DETECTOR, 3500

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
NONE	1 of 1	194C773	F

ECN5877

LF20 REV. A

ASSEMBLY	ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
AS153	2	AS136	1	ASSY., MAINS INPUT & TRANSFORMER
	45	L2057	1	LABEL, PROD. I.D., 3150 SERIES AC ADAPTER
	47	L2059	1	LABEL, INPUT VOLT., 3150 SERIES AC ADAPTER
AS153J	2	AS136J	1	ASSY., MAINS INPUT & TRANSFORMER
	45	L2057J	1	LABEL, PROD. I.D., 3150/100V SERIES AC ADPTR.
	47	L2059J	1	LABEL, INPUT VOLT., 3150/100V SERIES AC ADPTR.

ASSEMBLY NOTES:

1. APPLY P/N M050 LOCTITE (REF.) TO METAL THREADS UNLESS OTHERWISE NOTED.
2. ADD 0.75 LENGTHS OF P/N WT01 HEAT SHRINK (ITEM 19) TO P/N AC349 CABLE WIRES (ITEM 12) AND TO P/N AC354 CABLE (ITEM 9). J-HOOK AND SOLDER THOSE WIRES TO P/N D030 DIODE (ITEM 17) LEADS, ORIENTED AS SHOWN.
3. ROUTE TO INSPECTION.
4. SHRINK THE SLEEVING IN PLACE ON THE D030 DIODE LEADS TO COVER THE SOLDER JOINTS.
5. ADD P/N NW01 LOCKWASHER (ITEM 48) TO SCREW SUPPLIED WITH P/N HC30 CLAMP (ITEM 20). ORIENT SCREW IN CLAMP AS SHOWN. PLACE P/N CA21 CAPACITOR (ITEM 3) INTO CLAMP AND TIGHTEN.
6. ATTACH THE BLACK AC349 CABLE WIRES, AC352 (BLACK) CABLE (ITEM 11), AND BLACK AC350 CABLE WIRE (ITEM 13) TO THE NEGATIVE (–) TERMINAL OF CA21 CAPACITOR. CARE MUST BE TAKEN TO ORIENT THE LEADS FOR BEST FIT WHEN THE CAPACITOR IS MOUNTED IN THE BOX.
7. ATTACH THE AC354 CABLE (FROM D030), AC351 (RED) CABLE (ITEM 10) AND (RED) AC350 CABLE WIRE, TO THE POSITIVE (+) TERMINAL OF CA21 CAPACITOR. CARE MUST BE TAKEN TO ORIENT THE LEADS FOR BEST FIT WHEN THE CAPACITOR IS MOUNTED IN THE BOX.
8. SECURE D030 DIODE TO THE WALL OF P/N HM66AL BOX (ITEM 1), USING TWO P/N H101 INSULATOR (ITEM 18), P/N NS114N SCREW (ITEM 36), P/N HI03 BUSHING (ITEM 16) AND P/N N002 NUT (ITEM 34). TIGHTEN SCREW TO 7–8 IN. LBS. USING CALIBRATED TORQUE SCREW DRIVER.
9. SECURE THE CAPACITOR CLAMP TO THE WALL OF HM66AL USING TWO P/N NS111N SCREWS (ITEM 25) AND TWO P/N N001 NUTS (ITEM 33).
10. MOUNT THE TWO AC349 CONNECTORS TO THE WALL OF THE BOX USING TWO P/N HS28BN SCREWLOCKS (ITEM 14) FOR EACH CONNECTOR, P/N PA202 9–PIN GASKET (ITEM 4), AND P/N PA366 15–PIN GASKET (ITEM 5).
11. MOUNT AB123 (ITEM 40) TO THE BACK OF THE DB9 CONNECTOR OF AC349 USING P/N HS59 STANDOFFS (ITEM 41) AND P/N NS04N SCREWS (ITEM 42). THE LED SHOULD PROTRUDE THROUGH THE HOLE IN THE HM66AL BOX AND SHOULD BE MOUNTED USING USING P/N H025 LED HOLDER (ITEM 8).
12. PLUG AC350 CONNECTOR ONTO AB123, P1.
13. APPLY P/N M014 HEAT SINK COMPOUND (REF.) EVENLY OVER THE MOUNTING SURFACE OF P/N DB01 DIODE BRIDGE (ITEM 6). ORIENT THE BRIDGE PER DETAIL A AND SECURE IT TO THE WALL OF THE BOX USING NS112N SCREW (ITEM 27), P/N NW08 LOCK WASHER (ITEM 31) AND P/N N003 NUT (ITEM 24).
14. SECURE P/N HE16 BINDING POST (ITEM 21) AND P/N AW149 TERMINAL (ITEM 39) TO THE HM66AL BOX WALL USING HARDWARE SUPPLIED WITH P/N HE16 AND NW08 LOCKWASHER POSITIONED AS SHOWN.
15. ORIENT P/N S016 SWITCH (ITEM 23) PER DETAIL B AND PRESS IT INTO HM66AL BOX.
16. SELECT P/N AS136/AS136J TRANSFORMER ASSEMBLY (ITEM 2) FROM CHART. ORIENT AND MOUNT FILTER PART OF TRANSFORMER ASSEMBLY INTO THE BOX USING TWO P/N NS17 SCREWS (ITEM 26), TWO P/N NW12 WASHERS (ITEM 7), TWO P/N NW09 LOCK WASHERS (ITEM 32) AND TWO P/N N002 NUTS (ITEM 34).
    SECURE P/N AW149 TERMINAL TO THE SCREW SHOWN, USING A SECOND NW09 LOCKWASHER.
17. CONNECT FOUR AS136/AS136J WIRES TO THE S016 SWITCH (PER DETAIL B) AND CONNECT WIRES TO PREVIOUSLY MOUNTED P/N DB01 DIODE BRIDGE (PER DETAIL A). CONNECT WHITE WIRE OF AC350 AND GREY WIRE OF AS136/AS136J TO P/N DB01 DIODE BRIDGE USING PT53 ADAPTER (ITEM 43).
18. PRINT ASSEMBLY NUMBER, REVISION, LOT NUMBER AND ASSEMBLER INITIALS ON INSIDE SURFACE OF COVER WHERE IT WON'T BE COVERED BY THE TRANSFORMER.
19. ORIENT THE BOX LID SO THE TRANSFORMER MOUNTING HOLE IS CLOSER TO THE AC349 CONNECTORS THAN TO THE S016 SWITCH. SET THE HM66AL BOX ON ITS SIDE AND ATTACH THE AS136/AS136J TRANSFORMER ASSEMBLY AND THE HI36 INSULATOR (ITEM 22) TO THE BOX COVER USING P/N NS113N SCREW (ITEM 29), P/N NW06 FLAT WASHER (ITEM 30), P/N NW18 LOCK WASHER (ITEM 49), P/N M007 RED LOCTITE (REF.) AND P/N N034N NUT (ITEM 35).
20. APPLY P/N M008A SEALER (REF.) TO THE DIODE LEADS TO PROTECT AND STABILIZE THEM. ALSO APPLY M008A TO SECURE H025 LED HOLDER.
21. ROUTE TO INSPECTION.
22. SECURE THE LID TO THE BOX USING SIX P/N NS111N SCREWS (ITEM 25).
23. MOUNT TWO 4.00 LENGTHS OF P/N M031 HOOK FASTENER (ITEM 37) TO THE LID 1.00 FROM EACH END. SECURE TWO 4.00 LENGTHS OF P/N M032 LOOP FASTENER (ITEM 38) TO THE HOOK FASTENER BUT DO NOT STRIP THE BACKING.
24. SELECT P/N L2059/L2059J INPUT VOLTAGE LABEL (ITEM 47) FROM CHART AND MOUNT CENTERED AND BELOW TOP VELCRO STRIP. SEE BOTTOM VIEW ON SHEET 3 FOR APPROXIMATE LOCATION.
25. SELECT P/N L2057/L2057J PRODUCT ID LABEL (ITEM 45) FROM CHART AND MOUNT ON BOTTOM OF UNIT CENTERED ABOVE VELCRO STRIP AND BELOW TRANSFORMER MOUNTING HOLE. SEE BOTTOM VIEW ON SHEET 3 FOR APPROXIMATE LOCATION.
26. MOUNT P/N L137A CE COMPLIANCE LABEL (ITEM 44) AND P/N L185 DATE OF MFR LABEL (ITEM 51) BELOW INPUT VOLTAGE LABEL, ON EACH SIDE OF CENTER. SEE BOTTOM VIEW ON SHEET 3 FOR APPROXIMATE LOCATION.
27. MOUNT P/N L2058 CAUTION LABEL (ITEM 46) ON TOP OF UNIT. SEE SHEET 3 FOR LOCATING DIMENSIONS.
28. WRAP EACH ASSEMBLY IN P/N M082 BUBBLE WRAP (ITEM 50), LEAVING THE ENDS OPEN.
29. ROUTE TO INSPECTION.

	ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
	REF.	M050	A/R	ADHESIVE, LOCTITE 425, BLUE ASSURE
	REF.	M014	A/R	COMPOUND, HEATSINK 276–1372
	REF.	M008A	A/R	ADHESIVE/SEALANT, RTV
	REF.	M007	A/R	ADHESIVE, LOCTITE 262, RED, THD. LK.
	51	L185	1	LABEL, DATE OF MANUFACTURE
(NOT SHOWN)	50	M082	2 FT.	BUBBLE WRAP, ANTI–STATIC, 12" WD, 319BBL
	49	NW18	1	LOCKWASHER, INT TOOTH, SS #10
	48	NW01	1	LOCKWASHER, INT TOOTH, SS #6
	47	SEE CHART	1	LABEL, INPUT VOLT., 3150 SERIES AC ADAPTER
	46	L2058	1	LABEL, CAUTION, 3150 SERIES AC ADPTR.
	45	SEE CHART	1	LABEL, PROD. I.D., 3150 SERIES AC ADAPTER
	44	L137A	1	LABEL, CE COMPLIANCE, MDD (SEMKO)
	43	PT53	1	FAST–ON TAB ADAPTER, M/M/F
	42	NS04N	2	SCR, #4–40 X 1/4 LG. PHMS–XR, NM
	41	HS59	2	STNDF, 3/16 HEX, F/F, #4–40 X .38
	40	AB123	1	PCA, POWER/CHARGER LED, 3150, REV. A
	39	AW149	1	WIRE ASSY, GROUND, POWER ADAPTER, 3150
	38	M032	8.00	FASTENER, LOOP, BLACK, 1" WIDE
	37	M031	8.00	FASTENER, HOOK, BLACK, 1" WIDE
	36	NS114N	1	SCR, #4–40 X .50 LG. FHMS–XR, NM, BLK
	35	N034N	1	NUT, HEX, #10–32, SS, NM
	34	N002	3	NUT, HEX, #4–40, ZN
	33	N001	2	NUT, HEX, #6–32, ZN
	32	NW09	2	LOCKWASHER, IT, #4, SS, NON–MAG.
	31	NW08	1	LOCKWASHER, INT. TOOTH, #8 SS
	30	NW06	1	WASHER,.187 X .750 X .048, ZN
	29	NS113N	1	SCR, #10–32 X 1–3/4 LG. FHMS–XR, NM, BLK
	28	NS55	2	SCR, #10–32 X 3/8 LG, PHMS–XR, ZN
	27	NS112N	1	SCR, #8–32 X 3/4 LG. FHMS, XR, NM, BLK
	26	NS17	2	SCR, #4–40 X 1/2 LG. PHMS–XR, ZN
	25	NS111N	8	SCR, #6–32 X 1/2 LG. FHMS–XR, NM, BLK
	24	N003	1	NUT, HEX, #8–32, ZN
	23	S016	1	SWITCH, ROCKER, DPST
	22	HI36	1	INSULATOR, TRANSFORMER, TOROIDAL
	21	HE16	1	BINDING POST, METAL
	20	HC30	1	CLAMP, CAPACITOR MOUNT, 1.40 DIA.
	19	WT01	1.50	HEATSHRINK, .125 I.D., BLACK
	18	HI01	2	INSULATOR, THERMALLY CONDUCTIVE
	17	D030	1	DIODE, SCHOTTKY, 45V, 7.5A
	16	HI03	1	BUSHING, SHLDR, NYLON, .120 O.D.
	15	NW39N	2	WASHER, LOCK, SPLIT, #10, SS, NM
	14	HS28BN	4	SCWLCK, FEML, #4–40 X .375 LG, NM
	13	AC350	1	CAB, POWER ADAPTER LED, 3150
	12	AC349	1	CAB, POWER–I/O, 3150
	11	AC352	1	CAB, NEG. D/C VOLTAGE, 3150
	10	AC351	1	CAB, POS. D/C VOLTAGE, 3150
	9	AC354	1	CAB, DIODE POWER, 3150
	8	H025	1	LED HOLDER, .250
	7	NW12	2	WASHER, #4 x .125 x .312 x .030
	6	DB01	1	DIODE BRIDGE, 10 AMP
	5	PA366	1	GASKET, EMI/RFI, 15PIN CONNECTOR
	4	PA202	1	GASKET, EMI/RFI, 9PIN CONNECTOR
	3	CA21	1	CAP, 10,000 uF, –10%/+5%, 35V, AL
	2	SEE CHART	–	ASSY, MAINS INPUT & TRANSFORMER
	1	HM66AL	1	BOX, POWER ADAPTER, 3150
	ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION

REF. WIRING DIAGRAM C90C073

REV.	DESCRIPTION	BY	DATE
L	PER ECN #8854	CHY	5JUN02
K	PER ECN #8341	CHY	24MAY01
J	PER ECN #7663	CHY	25JUL00
H	PER ECN #7772	JRH	16JUN00
G	PER ECN #7252	CHY	19JUL99
F	PER ECN #7083	CHY	1MAR99
E	PER ECN #6769	SR	11SEP98

REV.	DESCRIPTION	BY	DATE
D	PER ECN #6711	JWT	06JUL98
C	PER ECN #6432	JRB	20MAR98
B	PER ECN #6367	SR	28JAN98
A	RELEASED, ECN #6080	JRB	24OCT97

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.XX = ± .02
.XXX = ± .010
ANGLES = ± 1°

DRAWN	JRB	22OCT97
DESIGNED	JRB	22OCT97
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
DO NOT SCALE THIS DRAWING !!!

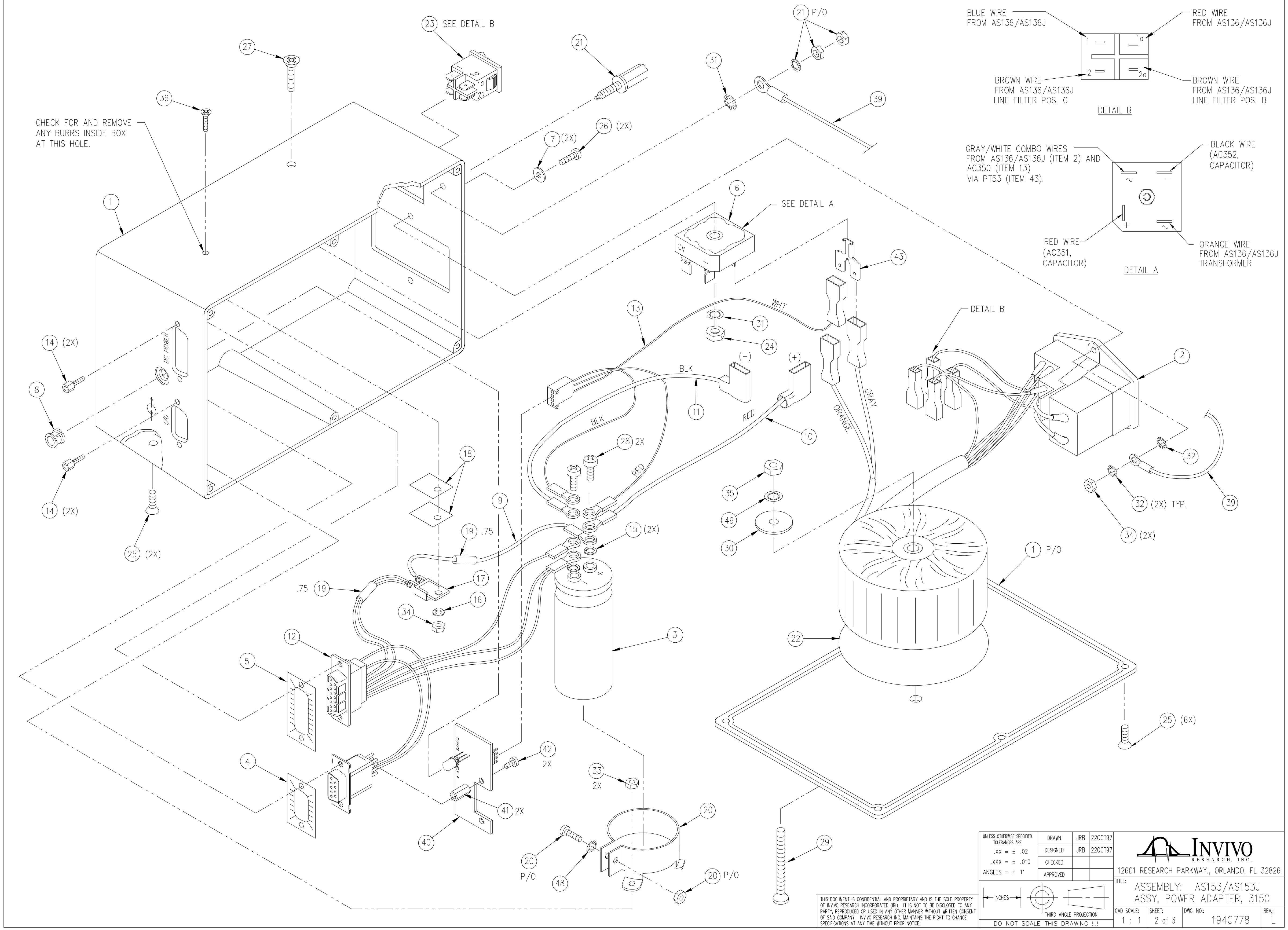
INVIVO
RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE:
ASSEMBLY: AS153/AS153J
ASSY, POWER ADAPTER, 3150

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
1 : 1	1 of 3	194C778	L

ECN8242

LF21 REV. B


23 SEE DETAIL B
27
21
31
21 P/O
36
CHECK FOR AND REMOVE ANY BURRS INSIDE BOX AT THIS HOLE.
7 (2X)
26 (2X)
39
1
6
SEE DETAIL A
43
13
WHT
31
24
14 (2X)
8
14 (2X)
25 (2X)
DC POWER
I/O
BLK
(−)
(+)
11
RED
10
ORANGE
GRAY
DETAIL B
2
28 2X
BLK
RED
18
9
.75
19
15 (2X)
35
49
30
17
16
34
.75 19
3
22
1 P/O
12
5
4
42 2X
41 2X
40
33 2X
20
20 P/O
48
20 P/O
29
25 (6X)
32
32 (2X) TYP.
34 (2X)
39
BLUE WIRE FROM AS136/AS136J
RED WIRE FROM AS136/AS136J
1
1a
2
2a
BROWN WIRE FROM AS136/AS136J LINE FILTER POS. G
BROWN WIRE FROM AS136/AS136J LINE FILTER POS. B
DETAIL B
GRAY/WHITE COMBO WIRES FROM AS136/AS136J (ITEM 2) AND AC350 (ITEM 13) VIA PT53 (ITEM 43).
BLACK WIRE (AC352, CAPACITOR)
RED WIRE (AC351, CAPACITOR)
ORANGE WIRE FROM AS136/AS136J TRANSFORMER
DETAIL A
ECN8242

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.XX = ± .02
.XXX = ± .010
ANGLES = ± 1°

DRAWN	JRB	22OCT97
DESIGNED	JRB	22OCT97
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
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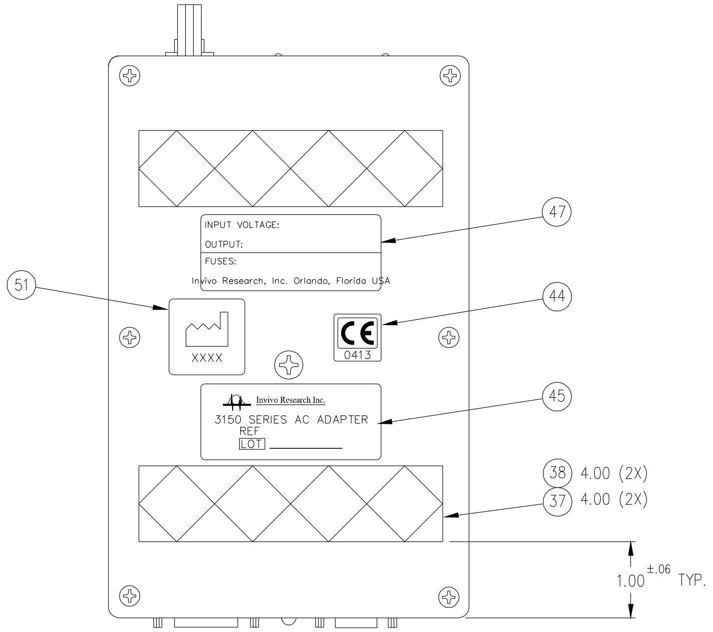
INVIVO
RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

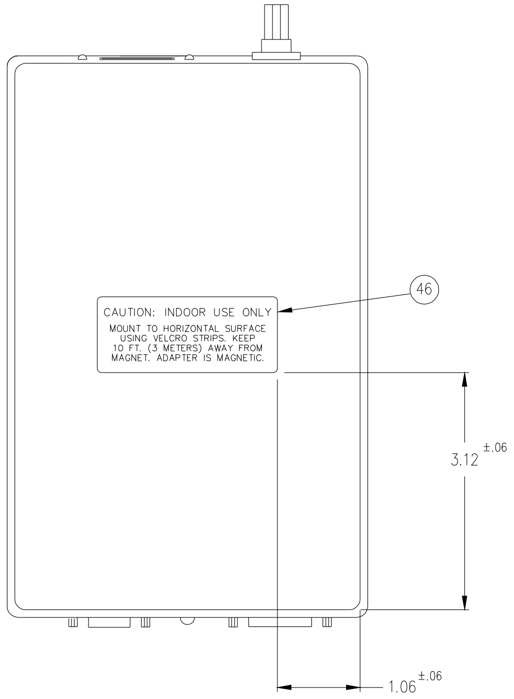
TITLE:
ASSEMBLY: AS153/AS153J
ASSY, POWER ADAPTER, 3150

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
1 : 1	2 of 3	194C778	L

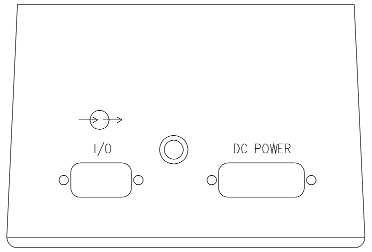
LF21 REV. B


INPUT VOLTAGE:
OUTPUT:
FUSES:
Invivo Research, Inc. Orlando, Florida USA
47
51
XXXX
CE
0413
44
Invivo Research Inc.
3150 SERIES AC ADAPTER
REF
LOT
45
38 4.00 (2X)
37 4.00 (2X)
1.00 ±.06 TYP.

BOTTOM VIEW


CAUTION: INDOOR USE ONLY
MOUNT TO HORIZONTAL SURFACE
USING VELCRO STRIPS. KEEP
10 FT. (3 METERS) AWAY FROM
MAGNET. ADAPTER IS MAGNETIC.
46
3.12 ±.06
1.06 ±.06

TOP VIEW



END VIEW

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE .XX = ± .02 .XXX = ± .010 ANGLES = ± 1°	DRAWN	JRB	22OCT97
	DESIGNED	JRB	22OCT97
	CHECKED		
	APPROVED		

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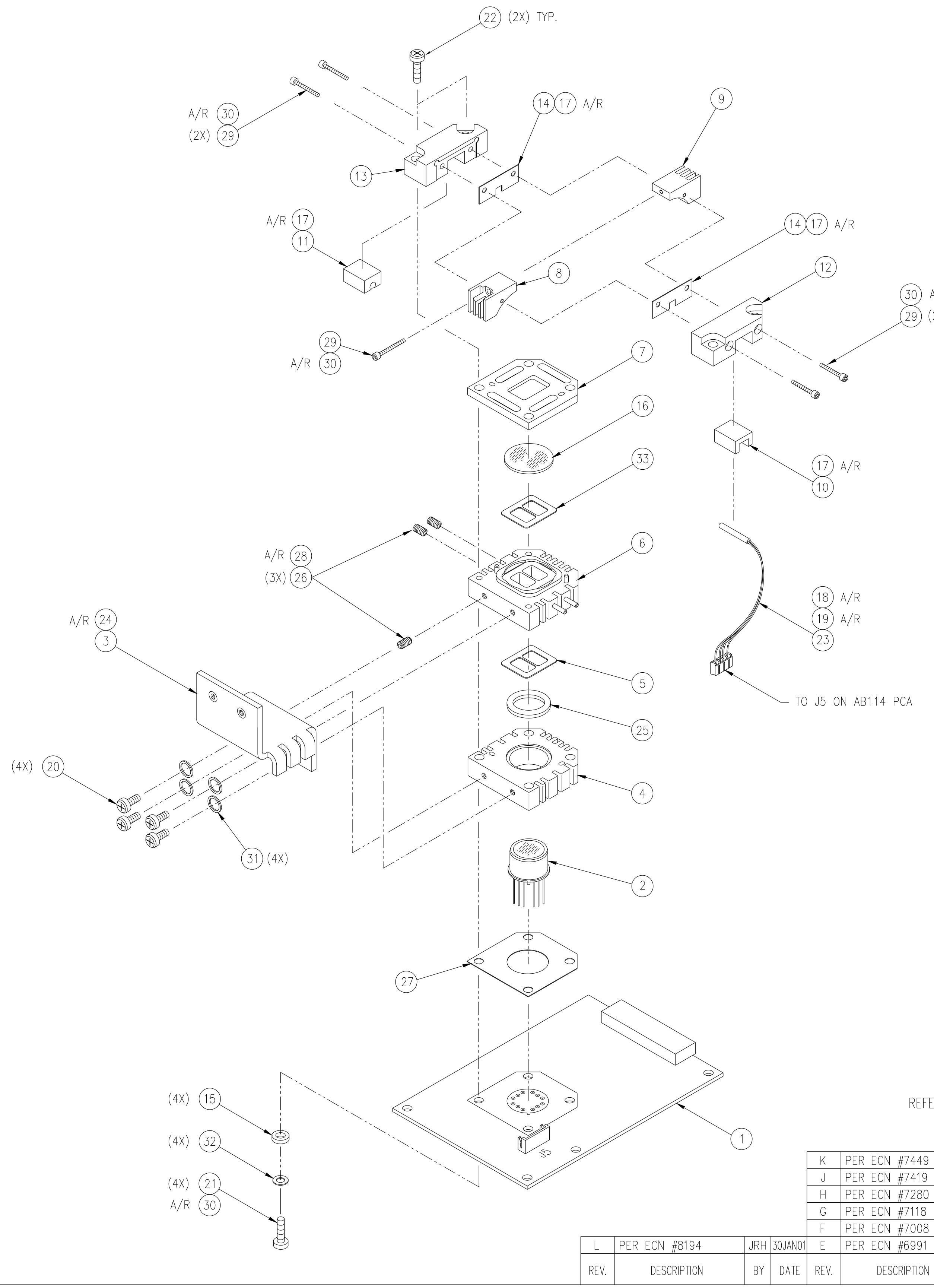
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

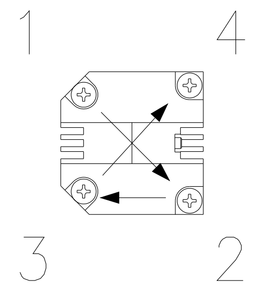
INCHES
THIRD ANGLE PROJECTION
DO NOT SCALE THIS DRAWING !!!

TITLE: ASSEMBLY: AS153/AS153J
ASSY, POWER ADAPTER, 3150

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
1 : 1	3 of 3	194C778	L

ECN8242





SCREW TIGHTENING PATTERN

REFERENCE ASSEMBLY INSTRUCTIONS AI061

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
33	HM70AAA	1	GASKET,AGENT CELL, VITON
32	NW48	4	LOKWSHER, IT, SS, #4 .123 x .225 x .015
31	NW09	4	LOCKWASHER, INTERNAL TOOTH, #4, SS
30	M050	A/R	ADHESIVE, LOCTITE 425, BLU, THDLK
29	NS124	5	SCR, #0-80 X 1/2" LG, HEX, SOC. HD., ZN
28	M198	A/R	ADHESIVE, LOCTITE 569, BRN, PIPE SEALANT
27	HM70AKA	1	INSULATOR, AGENT DETECTOR, 3500
26	NS95	3	SCR, SET, #4-40 X 3/16, CP-PT, SS
25	HP108	1	O-RING, (2-014) .489 I.D. X .070, VITON
24	M014	A/R	COMPOUND, HEAT SINK, 276-1372
23	AS162	1	ASSY, HEATER, AGENT ANALYZER
22	NS110	4	SCR, #4-40 X 1/2" LG, PHMS-XR, LEXAN
21	NS129	4	SCR, #4-40 X 9/16" LG, PHMS-XR, ZN
20	NS04	4	SCR, #4-40 X 1/4" LG, PHMS-XR, ZN
19	M181	A/R	COATING, BLACK, HIGH EMISSIVITY
18	M180	A/R	ADHESIVE, CERMABOND 632, THERMAL ISOLATION
17	M179	A/R	ADHESIVE, HIGH TEMP, THERMAL CONDUCTIVE
16	H119	1	WINDOW, 18.0mm X 1.0mm
15	NW16	4	WASHER, NYLON, #4 X .250 X .062
14	HM70P	2	PLATE, REFLECTOR, AGENT CELL
13	HM70N	1	END CAP, LEFT, AGENT CELL
12	HM70M	1	END CAP, RIGHT, AGENT CELL
11	HM70L	1	MOUNT, HEATER, LEFT, AGENTS
10	HM70K	1	MOUNT, HEATER, RIGHT, AGENTS
9	HM70G	1	REFLECTOR, LEFT, AGENT CELL
8	HM70F	1	REFLECTOR, RIGHT, AGENT CELL
7	HM70C	1	PLATE, INSULATOR, AGENT CELL
6	HM70B	1	MOUNTING BLOCK, DETECTOR, AGENTS
5	HM70AA	1	GASKET, AGENT DETECTOR, VITON
4	HM70A	1	HEATSINK, DETECTOR, AGENTS
3	HM50BG	1	HEATSINK, DETECTOR, 3500
2	DP04A2	1	DETECTOR, THERMOPILE, 7 AGENT
1	AB114	1	PCA, AGENTS DETECTOR, 3500

REV.	DESCRIPTION	BY	DATE
L	PER ECN #8194	JRH	30JAN01

REV.	DESCRIPTION	BY	DATE	REV.	DESCRIPTION	BY	DATE
K	PER ECN #7449	CHY	11FEB00	D	PER ECN #6800	CHY	18DEC98
J	PER ECN #7419	SR	19OCT99	C	PER ECN #6891	CHY	4NOV98
H	PER ECN #7280	CHY	2AUG99	B	PER ECN #6758	CHY	14AUG98
G	PER ECN #7118	CHY	16APR99	A	RELEASED, ECN #6585	SR	4/98
F	PER ECN #7008	CHY	2FEB99				
E	PER ECN #6991	RLM	23DEC98				

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UNLESS OTHERWISE SPECIFIED
TOLERANCES ARE
.XX = ± ——
.XXX = ± ——
ANGLES = ± ——

DRAWN	SR	4/98
DESIGNED	RLM	DATE
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
DO NOT SCALE THIS DRAWING !!!

Invivo Research Inc.
PRECISION BIOMEDICAL INSTRUMENTS
Subsidiary of Invivo Corporation
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE:
ASSEMBLY: AS158
ASSY, ANESTH. AGENT ANALYZER BOARD

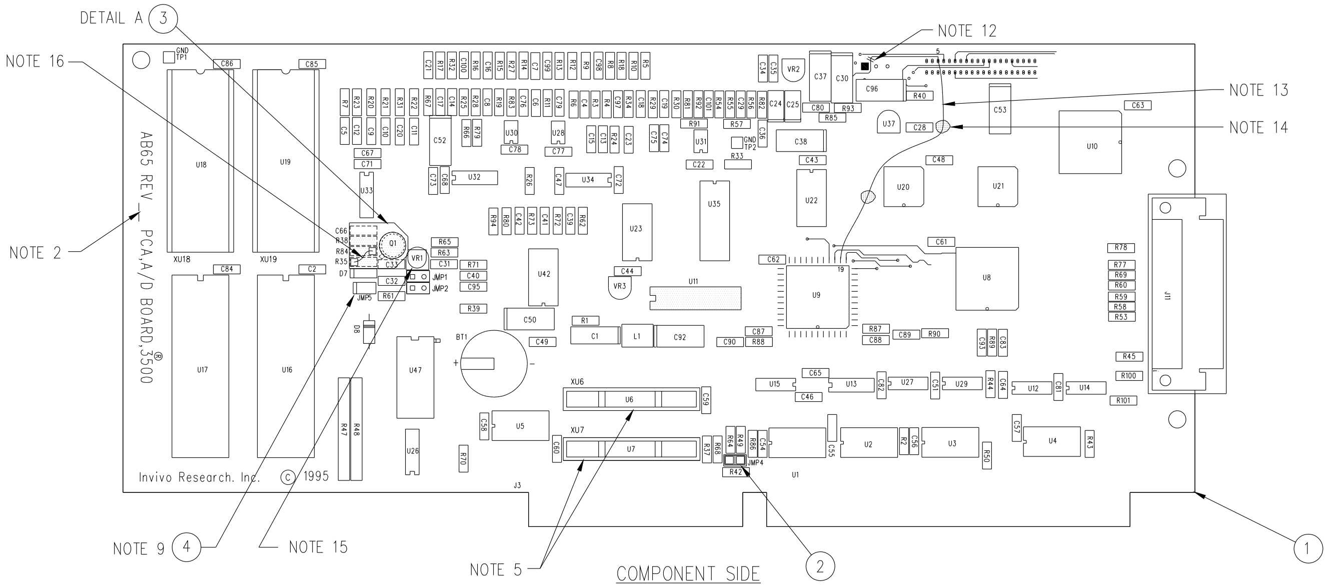
CAD SCALE:	SHEET:	DWG. NO.:	REV.:
1 : 1	1 of 1	194C805	L

ECN5877

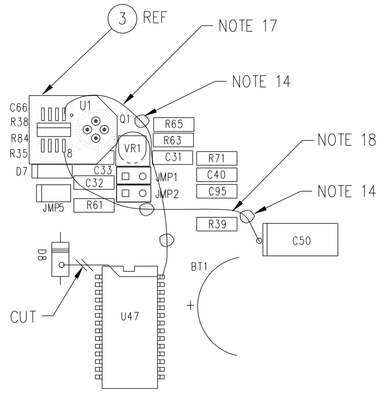
LF21 REV. A

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
4, D8	D006	2	DIODE, SCHOTTKY, 30V, 200MA
XU18,19	P029	2	SOCKET, 32 PIN DIP, .600 CTR.
U31	ILX26	1	IC, OP AMP, DUAL, OPA2131, SO-8
VR2,3	IR41	2	REGULATOR, POSITIVE LM340LAZ-5
U47	IMX00	1	SRAM, 32K X 8, 200NS, SOW28, 60256
U42	ICX36	1	CONVRTR, 12-BIT D/A, 20 PIN SOIC
U37	IL59	1	SENSOR, TEMP, CENTIGRADE, TO-92

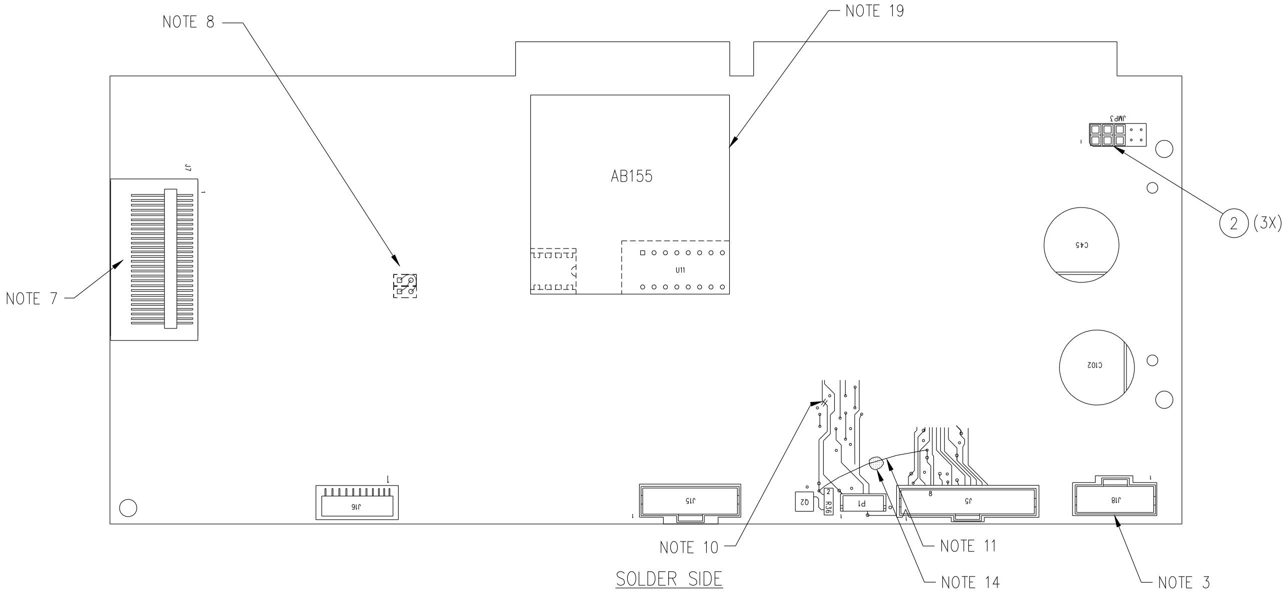
ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
U35	ICX37	1	CONVRTR, A/D, 16-BIT, 28 PIN, SOIC
U32,33,34	ILX06	3	IC,MULTIPLXR,CMOS ANALOG,8-CHAN,SO16
U28,30	ILX10A	2	OP AMP, LW DRFT/OFF, JFET, LF4120
U27	ICX32	1	OR GATE, QUAD Z, 74ACT32, 14 PIN SOIC
U12	ICX34	1	HEX INVRTR, (74ACT04) 14 PIN, SOIC
U13,26	ICX38	2	DECODR,/DEMLTPLXR, 74ACT138, SO16
U14,15,29	ICX28	3	IC, F/F, EDG-TRIG, DUAL D, 74ACT74



COMPONENT SIDE



DETAIL A



SOLDER SIDE

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
U16,17,18,19	IM48A	4	I.C. FLASH MEMORY, CMOS, 5V, 4MBIT
U20,21	ICX06	2	TIMER, PROG, INT, PLC28, 82C53
U11	AB155	1	PCA, SOUND GENERATOR MODULE
U9	INX02A	1	I/O, PARALLEL, uPD71055, CMOS 44PLCC
U8,10	INX02	2	I/O, PARALLEL, 8255, CMOS 44PLCC
U4,5	ICX35	2	XCVR, OCTL, BI-DIRECTNL, 20P SOIC
TP1,2	PA00	2	CONN, 1P, SR, HDR, ST, UNSHRD, (.10)
R82	RX148	1	RES, 33.2K, 1%, .125W, 100PPM, 1206
R79,83	RX61	2	RES, 30.1K, 1%, .125W, SMD, 1206
R53,58-60,69, R77,78,81	RX41	8	RES, 200 OHM, 5%, .125W, 200PPM, CHIP
R48	RS45	1	RES, 1.5K, 5%, 200PPM, 9-PIN SIP
R47	RS44	1	RES, 1.8K, 5%, 200PPM, 9-PIN SIP
R91,92	RX105	2	RES, 10K, 1%, .125W, 50PPM, CHIP
R45,86,100,101	RX58	4	RES, 20K, 1%, .125W, SMD, 1206
R44,90	RX147	2	RES, 200 OHM, 1%, .125W, 100PPM, 1206
R40	RX19	1	RES, 2K, 5%, .125W, 200PPM, CHIP
R39	RX136	1	RES, 825 OHM, 1%, .125W, 100PPM,1206
VR1	IR66	1	REGULATOR, 3.3V, TO-92, LT1121CZ
U1,2,3,22,23	ICX87	5	IC, OCTL, 3-STATE XCVR, 74HCT245
R31, R36	RX12	2	RES, 2.2K, 5%, .125W
R7,20-30,32, R33,34,62,72, R73,87-89	RX42	21	RES, 100 OHM, 5%, .125W, 200PPM, CHIP
R5,6,10,11,14 R15,18,19, R56,57,61, R63,65-68,71, R80,85,93,94	RX57	21	RES, 10K, 1%, .125W, SMD, 1206
R3,4,8,9,12,13 R16,17,54,55	RX84	10	RES, 5.1K, 1%, .125W, SMT, 1206
R2,37,42,43 R49,50,64,70	RX141	8	RES, 33 OHM, 5%, .125W, 200PPM, 1206
R1	RX23	1	RES, 1K, 5%, .125W, 200PPM, 1206 CHIP
XU6,7	P030	2	SOCKET, 24 PIN DIP, .300 CTR.
L1	TX01	1	INDUCTOR, 100UH, 100MA, SUR-MOUNT
JMP3	PA37	1	HEADER, UNSH, DR, 10 PIN (.10)
JMP4	PA49	1	HEADER, UNSH, SR, 2 PIN (.10)
J18	PA285	1	CONN, 24P, DR, HDR, SHRD, .050 CTRS.
J16	PA263	1	CONN, 10P, SR, HDR, SHRD, .049
J15	PA286	1	CONN, 30P, DR, HDR, SHRD, .050 CTRS
J11	PA229	1	CONN, 50P, RA, SCKT, ROBINSON NUGENT
J7	PA268	1	CONN, 30P, SR, HDR, RA, .039 CTRS.
J5	PA276	1	CONN, 40P, DR, HDR, SHRD, .050 CTRS
P1	PA294	1	CONN, 3 PIN, SR, HDR,ST,SHRD,.098 CTRS.
C95	CX24	1	CAP, 560pF, 5%, NPO, 50V, 1206, SMD
C89,93	CX06	2	CAP, 10pF, 20%, 50V, COG, CHIP, CER.
C45,102	CA28	2	CAP, 1000uF, 20%, 25V, ALUM. RAD.
C33	CX80	1	CAP, 1uF, 10%, 16V, X5R, CERAMIC, 1206
C30,37,38,50 C52,53,92,96	CXT05	8	CAP, 10uF, 20%, 35V, SIZE D, TANT.
Q2	QX00	1	TRANSISTOR, NPN, SILI, SO23, TYPE 2222
BT1	HB09	1	BATTERY, 3V, LITHIUM
D7	DDX11	1	DIODE, SCHTTKY, BARRIER, 50V, BAS86
C29	CX35	1	CAP, 150pF, 5%, NPO, 50VDC, 1206
C24, 25	CXT13	2	CAP, 2.2uF, 5%, 20V, TANT., SIZE "E", SM
C13,18,19,23	CX28	4	CAP, .015uF, 5%, 50V, 25U, CHIP, CER.
C4,6-8,28, C97-101	CX22	11	CAP, .1uF, 10%, 50V, X7R, 1206 CHIP
C2,5,9-12, C14-17,20-22, C31,32,34,35, C39-44,46-49, C51, 54-68, C71-88, 90	CX07	62	CAP, .1uF, 20%, 50V, 25U, CHIP, CER.
C1	CXT02	1	CAP. 6.8uF, 20%, 35VDC, CHIP, TANT.
3	AB153	1	PCA, NONVOLATILE RAM ADAPTER, 3500
2	PA66	4	SHUNT, 2 POSITION
1	B142	1	PCB, A/D BOARD, 3500, REV. C

SEE NOTE 5

NOTES

1. WORKMANSHIP TO CONFORM TO IPC CLASS II REQUIREMENTS.
2. USING INDELIBLE INK IN CONTRASTING COLOR, PLACE CURRENT ASSEMBLY DRAWING REV. IN SPACE PROVIDED.
3. BOARD REQUIRES SERIALIZED LABELING WITH THE FOLLOWING INFORMATION: UNIQUE SERIAL NO., ASSEMBLY P/N & CURRENT REV. LEVEL. PLACE SERIAL NUMBER LABEL ON FLAT SIDE OF J18.
4. COMPONENTS SHOWN AS SHADED ▒ ARE TO BE OMITTED (R35,38,84,Q1 & U11).
5. U6 (AM48) & U7 (AM47) TO BE INSTALLED AT AB65A ASSEMBLY.
6. MAXIMUM COMPONENT HEIGHT OF ANY COMPONENT NOT TO EXCEED .625 .
7. CUT LEADS OF XU18 & U17 FLUSH TO .015 MAX. ABOVE SURFACE OF BOARD UNDER PINS OF J7
8. JUMPER JMP1-1 TO JMP2-2 AND JUMPER JMP2-1 TO JMP1-2. ON THE SOLDER SIDE OF THE BOARD.
9. INSTALL D006 (ITEM 4) IN JMP5 THRU-HOLES ON COMPONENT SIDE.
10. CUT TRACE BETWEEN R36-2 AND U9-19.
11. JUMPER J5-8 AND U9-17 TO R36-2 ON THE SOLDER SIDE OF THE BOARD.
12. CUT TRACE BETWEEN R36-2 AND J5-5.
13. JUMPER J5-5 TO U9-19 ON THE COMPONENT SIDE OF THE BOARD.
14. SECURE JUMPER WIRES TO BOARD USING TAK PAK 382 (M107) AS REQUIRED.
15. INSTALL VR1 (IR66) ROTATED 180° FROM BOARD SILKSCREEN.
16. INSTALL JUMPER WIRE ACROSS PADS OF R35 AND R84 AS SHOWN.
17. AFTER INSTALLING ITEM 3 (AB153), CUT TRACE FROM U47 PIN 28 (COMP. SIDE), AS SHOWN. ADD JUMPER WIRE FROM U47 PIN 28 TO U1 PIN 1 ON AB153 BOARD.
18. ADD JUMPER WIRE FROM U1-8 ON AB153 TO POSITIVE SIDE OF C50 ON AB65.
19. REMOVE JUMPER 1 & 2 FROM AB155. WITH SHIELD BETWEEN AB155 AND AB65, INSERT AB155-P2 CONNECTOR INTO AB65-U11 HOLES MAKING SURE THAT P2-1 MATCHES U11-1 AND SOLDER IN PLACE AS SHOWN.
20. TEST ASSEMBLY TO VERIFY PROPER SOUND GENERATOR OUTPUT.

REV.	DESCRIPTION	BY	DATE
AA	PER ECN #8537	CHY	19NOV01
Y	PER ECN #8362	CHY	12JUL01
W	PER ECN #8181	CHY	22MAR01
V	PER ECN #8193	CHY	7FEB01
U	PER ECN #8127	SR	1DEC00
T	PER ECN #7870	SLC	18JUL00
R	PER ECN #7824	JRH	21JUN00
P	PER ECN #7376	SLC	05OCT99
N	PER ECN #7134	CHY	19APR99
M	PER ECN #6816	KCO	8SEP98

REV.	DESCRIPTION	BY	DATE
L	PER ECN #6072	SLC	15OCT97
K	PER ECN #5554	JRB	07FEB97
J	PER ECN #5431	SLC	06DEC96
H	PER ECN #5228	CHY	21AUG96
G	PER ECN #5202	SR	02AUG96
F	PER ECN #5129	SLC	01JUL96
E	PER ECN #5039M	JRB	5/17/96
D	PER ECN #5011	CHY	4/26/96
C	REVISED PER ECN #4977	SLC	12APR96
B	REVISED PER ECN #4881M	SLC	14MAR96
A	RELEASED ECN #4631	SLN	11/16/95
02	PROTOTYPE REVISION	SR	8/28/95
01	PROTOTYPE REVISION	SLN	8/12/95

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± ——
.XXX = ± ——
ANGLES = ± ——

DRAWN	SR	8/28/95
DESIGNED	SLN	8/22/95
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
DO NOT SCALE THIS DRAWING !!!

INVIVO
RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
ASSEMBLY: AB65
PCA, A/D, 3500

CAD SCALE	SHEET	DWG. NO.	REV.
1.5 : 1	1 OF 1	194D638	AA

NOTES

1. WORKMANSHIP TO CONFORM TO IPC CLASS II REQUIREMENTS
2. USING INDELIBLE INK IN CONTRASTING COLOR, PLACE CURRENT ASSEMBLY REV. IN SPACE PROVIDED
3. BOARD REQUIRES SERIALIZED LABELING WITH THE FOLLOWING INFORMATION:
   UNIQUE SERIAL NO., ASSEMBLY P/N & CURRENT REV. LEVEL
   PLACE SERIAL LABEL IN THIS AREA – ORIENT AS SHOWN
4. C4 AND C6 TO BE BENT OVER PARALLEL TO PCB AS SHOWN IN DETAIL B
   IF NECESSARY, PLACE A 1.00 LG. PIECE OF TAPE (ITEM 2) ON THE UNDERSIDE OF C4 & C6 TO HOLD IN PLACE. APPLY CLEAR RTV (ITEM 11) TO SELECTED AREAS PER NOTES TO FASTEN SECURELY TO BOARD
5. ADD ONE DROP OF LOCTITE 425 (M050) TO END OF SCREW BEFORE INSTALLING NUT
6. INSTALL JUMPER WIRE ACROSS PADS AT JMP1
7. MAXIMUM COMPONENT HEIGHT NOT TO EXCEED .815
8. THE "K" INDICATOR ON DIODES DENOTES CATHODE END
9. COMPONENTS SHOWN AS SOLID ARE TO BE OMITTED
10. INSTALL NOISE FILTER AT JP3 – 1 & 2 AS SHOWN IN DETAIL E
    BEND FERRITE BEAD TOWARD CENTER OF BOARD
11. VERIFY ALL SHADED COMPONENTS ARE REMOVED AND THE BOARD SURFACE IS CLEAN. CUT A 0.50 X 0.50 PIECE OF P/N M000D FOAM TAPE (ITEM 16) AND SECURE IT TO THE TOP OF P/N XC33 CRYSTAL OSC. (ITEM 13). SECURE THE OSCILLATOR UPSIDE DOWN BETWEEN D2 AND D15 AS SHOWN IN DETAIL C. SOLDER P/N CC12 CAPACITOR (ITEM 15) BETWEEN PINS 4 AND 8 OF THE OSCILLATOR AND VERIFY THAT THE LEADS DO NOT TOUCH THE OSCILLATOR CASE. SOLDER P/N R046 RESISTOR (ITEM 14) FROM THE OSCILLATOR PIN 5 TO U10–12 ON THE AB69 AND VERIFY THAT THE LEADS DO NOT TOUCH THE OSCILLATOR CASE. SOLDER P/N W004A JUMPER WIRE (ITEM 17) FROM THE OSCILLATOR PIN 4 TO C35 (THE SIDE TOWARDS THE EDGE OF THE BOARD). SOLDER JUMPER WIRE FROM THE OSCILLATOR PIN 8 TO C35 (THE CLOSEST TO THE CENTER OF THE BOARD) AND SECURE JUMPER WIRES WITH P/N M107 TAK PAK (ITEM 18). SECURE U10–12/R046 LEAD CONNECTION WITH TAK PAK.
12. ON SOLDER SIDE, PLACE P/N WT07 HEAT SHRINK (ITEM 19) OVER BOTH LEADS OF P/N D015 RECTIFIER (ITEM 20). SOLDER CATHODE END OF P/N D015 (ITEM 20) TO Q15, PIN 3 AND ANODE END TO R89, PIN 1 AS SHOWN. ENSURE THAT BOTH LEADS OF P/N D015 (ITEM 20) DO NOT MAKE CONTACT WITH ANY VIAS OR OTHER COMPONENTS. SECURE P/N D015 (ITEM 20) USING P/N M107 ADHESIVE (ITEM 18) AS SHOWN.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
20	D015	1	RECTIFIER, 1N4935, 200V
19	WT07	A/R	HEAT SHRINK, 3/64" I.D., BLACK
18	M107	REF	ADHESIVE, LOCTITE TAK PAK 382
17	W004A	2.75	30 GAGE WIRE WRAP/ROLL
16	M000D	.50	TAPE,OPN,CL.FM,DS,.13THK.X 1.0W
15	CC12	1	CAP, .1uF, 20%, 50V, 25U, CER.
14	R046	1	RES, 100 OHM, .25W, 5%, CF
13	XC33	1	CRYSTAL, OSCILLATOR, 7.988 MHZ, 5V, 25PPM
12	AS167	1	ASSY., NOISE FILTER, FERRITE BEAD
R8	RX160	1	RES, 62K, .125W, 5%, 200PPM, 1206
11	M008A	REF.	ADHESIVE/SEALANT, RTV, CLEAR, 732
Z1	DZ13	1	ZENER, 1N5246B, 16V, 500MW
U14	IRX06	1	I.C., REG, DL. VLT. SW, 3.3V/+5V, SSOP
U13	ILX09	1	I.C., OP–AMP, DL. LWPWR, SO8, LM358
U11	IR07	1	SG3525AN PULSE WIDTH MODULATOR
U10	ICX03	1	COUNTER, DUAL, DEC, SO16, 74HC390
U6	ICX18	1	I.C., DUAL D FLP–FLP, CD4013BCM
U4	ILX22	1	I.C., OP. AMP, DUAL LW. PWR, CMOS
U3	IL60	1	IC, 8P DIP, AUDIO POWER AMP, LM380
U2	ICX19	1	I.C., QUD. 2–INPT. NAND, CD4093BCM
U1	ICX51A	1	IC, 16P, MULTIVIBRATOR, MONOSTABLE, CMOS
TP1	PA00	1	HEADER, UNSH, SR, 1 PIN (.10)
SW1	S021	1	SW, SLIDE INCA–2
R97	RX203	1	RES, .015 OHM, 10%, 1W, 75PPM, 2010
R96	RX197	1	RES, .05 OHM, 5%, .125W, 400PPM, 2010
R92,93	RX57	2	RES, 10K, 1%, .125W, SMD, 1206
R89	R177	1	RES, .33 OHM, 5%, 1W, M.O.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
R86	RX22	1	RES, 6.2K, 5%, .125W, 200PPM, CHIP
10	N002	3	NUT, HEX, #4–40, ZN
9	NS04	3	SCR, #4–40 X 1/4 LG. PHMS–XR, ZN
8	HM50AL	1	HEAT SINK, POWER SUPPLY, 3500
R79	RX53	1	RES, 33K, 5%, .125W, 200PPM
R78	RX20	1	RES, 470 OHM, 5%, .125W, 200PPM, CHIP
R75	RX175	1	RES, 6.81K, 1%, .125W, 100PPM, 1206
R74	RX182	1	RES, 3K, 5%, .125W, 200PPM, 1206
R71	RX123	1	RES, 39 OHM, 5%, .25W, 200PPM, 1206
R76	RX150	1	RES, 4.99K, 1%, .125W, 100PPM, 1206
R58	RX193	1	RES, 9.1K, 5%, .125W, 220V, 1206
R56	RX102	1	RES, 93.1K, .125W, 1%, 100PPM, 1206
R63	RX67	1	RES, 2.0K, .125W, 1%, 1206
R51	RX48	1	RES, 240K, 5%, .125W, 200PPM, CHIP
R20,R45	RX179	2	RES, 2.7K, 5%, .125W, 200PPM, 1206
R40,43	RX96	2	RES, 220K, 5%, .125W, 200PPM, 1206
R39	RX158	1	RES, 150K, 5%, .125W, 200PPM, 1206
R84,98,103	RX42	3	RES, 100 OHM, 5%, .125W, 200PPM, CHIP
R32	RX70	1	RES, 10 OHM, 5%, .125W, 200PPM, 1206
R25	RX180	1	RES, 75K, 5%, .125W, 200PPM, 1206
R22,30,55	RX58	3	RES, 20K, 1%, .125W, SMD, 1206
R16	RX26	1	RES, 10 MEG, 5%, .125W, 200PPM, CHIP
R15	RX186	1	RES, 2.7 OHM, 5%, .125W, 600PPM, 1206
R13,60,91	RX83	3	RES, 1K, 1%, .125W, SMT, 1206
R12,18	RX183	2	RES, 750 OHM, 5%, .125W, 200PPM, 1206
R68	RX115	1	RES, 5.11K, .125W, 1%, 100PPM, 1206
R33	RX101	1	RES, 2.7 OHM. .125W, 5%, 400PPM, 1206
7	PA66	4	SHUNT, 2 POSITION
R27	RX77	1	RES, 680 OHM, 5%, .125W, 200PPM, 1206
R4,7,17,42 R24,26,81 R100,102,115	RX00	10	RES, 100K, 5%, .125W
R38	RX07	1	RES, 15K, 5%, .125W, 1206
R6	RX25	1	RES, 470K, 5%, .125W, 200PPM, CHIP
R19,36,37, R64,77, R80,87,88, R104,110,113, R114	RX40	12	RES, 10K, 5%, .125W, 200PPM, CHIP
R9,65,67,69, R85,90,94	RX12	7	RES, 2.2K, 5%, .125W
R10	RX187	1	RES, 1.5K, 5%, .125W, 200PPM, 1206
R11,14,23, R21,28,82	RX02	6	RES, 1K, 5%, .125W
5	NW31	2	WASHER, .125 ID X .500 OD X .062 THK, NY
4	N009	2	NUT, HEX, #4–40, NY
3	NS21	2	SCREW, #4–40 X 3/4" LG, PHMS–NY
R2,5,31,44,61,72	RX08	6	RES, 4.7K, 5%, .125W
R1,3,34,35,41	RX01	5	RES, 1 MEG, 5%, .125W
Q17,18,24,26	QX09	4	TRANS, N–CHNL, POWER MOSFET, SO–8

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
Q15,23	Q036	2	TIP120 NPN DARLINGTON
Q14	Q003	1	TRANS, FET, N–CHNL, TO–92, VN10KM
Q8	QX13	1	TRANS, N–CHNL,ENHANCEMENT–MODE MOS
Q5	QX01	1	TRANS, PNP,SILI, SO23, TYPE 2907A
Q4,16	Q026	2	D44H11 NPN SILICON POWER PAK
Q2,3,22	QX08	3	TRANS, NPN DARLINGTON, SOT23
Q1,6,7,11,12 Q13,25,28–30	QX00	10	TRANS, NPN, SILI, 2023, TYPE 2222
P10	PA49	1	HEADER, UNSH, SR, 2 PIN (.10)
P9	PA268	1	CONN, 30P, SR, HDR, RA, .039 CTRS.
P8	PA271	1	CONN, 16P, DR, HDR, ST, .079 CTRS.
P6	PA284	1	CONN, 20P, DR, HDR, SHRD, .050 CTRS.
P5,7	PA272	2	CONN, 10P, SR, HDR, ST, SHRD, (.098)
P4	PA249	1	HEADER, UNSHD, SR, 2 PIN (.156)
P3	PA29	1	HEADER, UNSHD, SR, 3 PIN, (.156)
P2,11	PA291A	2	CONN, 8P, SR, HDR, ST, .100 CTRS.
P1	PA194	1	CONN, 2P, SR, HDR, ST, .098 CTRS.
L8,11,12,13	T058	4	BEAD, .370 FERRITE, LEADED, 22 GA
L9,10	T063	2	INDUCTOR, 16uH, POT CORE
JP1–5	PA08	5	HEADER, UNSH, SR, 3 PIN, (.10)
D11	D009	1	DIODE, GENERAL PURPOSE, 1N5818
D42	DZ04	1	ZENER, 1N753A, 6.2V, 5%, 500MW
D36,37,46	D008	3	DIODE, SCHOTTKY, 1 AMP, 40V
D34,35	D015	2	RECTIFIER, 1N4935, 200V
D27,41	D003	2	DIODE, SCHOTTKY, 1N5711
D24	D006	1	DIODE, SCHOTTKY, 30V, 200MA
D14,15,16	D000	3	DIODE, SIGNAL, 1N4148
D19,31	DZ20	2	TRANSORBE, SA30A, 30V
D9	DZ02	1	ZENER, 1N750A, 4.7V, 500MW
D4,5,12	D001	3	DIODE, 1N4001
D3,8,13	D030	3	DIODE, SCHOTTKY, 7.5 AMP, 45V
D1,2,6,7,10,22, D28,29,32,33, D38,39,43, D47,48,49	DDX01	16	DIODE, SIGNAL, LEADLESS, 500MW
C78,79	CT26	2	CAP, 22uF, 10%, 50V, RADIAL, TANT.
C77,92	CX09	2	CAP, 100pF, 10%, 50V, COG, CHIP, CER.
C60,95	CXT12	2	CAP, 4.7uF, 20%, 16V, TANT, 3528 PKG
C28,54,73,75	CX13	4	CAP, .001uF, 10%, 50VDC, X7R, CHIP
C53	CX31	1	CAP, 2200pF, 10%, 50V, X7R, 0805, CHIP
C10,52,76,87	CX37	4	CAP, 20uF, 10%, 50V, COG, CER, 1206
C98	CX44	1	CAP, .33UF,+80%, –20%, Y5V, 50V, 1206
C25,27,50, C69,96,97	CXT04	6	CAP, 1uF, 20%, 35VDC, CHIP, TANT.
C22	CXT02	1	CAP, 6.8uF, 20%, 35V, CHIP, TANT.
C20	CX08	1	CAP, .0068uF, 5%, 50V, X7R, CHIP, CER.
C15,18	CXT11	2	CAP, 68uF, 20%, 10V, SIZE D, TANT.
C13,31	CXT05	2	CAP, 10uF, 20%, 35V, SIZE D, TANT.
C12,74,80, C81,82	CA34	5	CAP, 220uF, 20%, 10V, ALUM, RAD.
C83,84	CX29	2	CAP, .1uF, 5%, 50V, X7R, 1206, CHIP
C4,6	CA36	2	CAP, 4700uF, 20%, 25V, MINI, ALUM, RAD.
C3,5,29, C70,85,88	CX11	6	CAP, .01uF, 10%, 50V, CHIP, CER.
C2,7,8,9, C11,14,16,17, C21,35, C55,58,61–68, C71,72,91	CX22	23	CAP, .1uF, 10%, 50V, X7R, 1206 CHIP
C1	CT23	1	CAP, 47uF, 10%, 35V, TANT.
2	M004	2.0	TAPE, ACRYLIC, DS, .010 THK., x .50 WD.
1	B145	1	PCB, POWER SUPPLY, 3500 REV. D

REV.	DESCRIPTION	BY	DATE	REV.	DESCRIPTION	BY	DATE	REV.	DESCRIPTION	BY	DATE
				Y	PER ECN #8564	CHY	28NOV01	L	PER ECN #6213M	SLC	25NOV97
				W	PER ECN #8362	CHY	13JUL01	K	PER ECN #5673M	JRB	14APR97
				V	PER ECN #8378	JRH	26JUN01	J	PER ECN #5435	SLC	09JAN97
				U	PER ECN #7480	CHY	14SEP00	H	PER ECN #5434	SLC	06JAN97
AD	PER ECN #9017	CHY	28AUG02	T	PER ECN #7480	CHY	11JAN00	G	PER ECN #5312	CHY	26SEP96
AC	PER ECN #8917	CHY	24JUN02	R	PER ECN #7244	KCO	22JUL99	F	PER ECN #5199	SR	02AUG96
AB	PER ECN #8676	CHY	8APR02	P	PER ECN #7129	CHY	31MAR99	E	PER ECN #5156	SLC	15JUL96
AA	PER ECN #8744	CHY	21MAR02	M	PER ECN #6215	SLC	25NOV97	D	PER ECN #4854	JRB	4/18/96

REV.	DESCRIPTION	BY	DATE
C	PER ECN #4882M	SLC	13MAR96
B	PER ECN #4832	JRB	2/16/96
A	RELEASED, ECN #4631	SLN	11/14/95
02	PROTOTYPE REVISION	SR	8/28/95
01	PROTOTYPE REVISION	SLN	8/12/95

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .02
.XXX = ± .010
ANGLES = ± 1°

DRAWN	SR	8/30/95
DESIGNED	SLN	8/22/95
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
DO NOT SCALE THIS DRAWING !!!

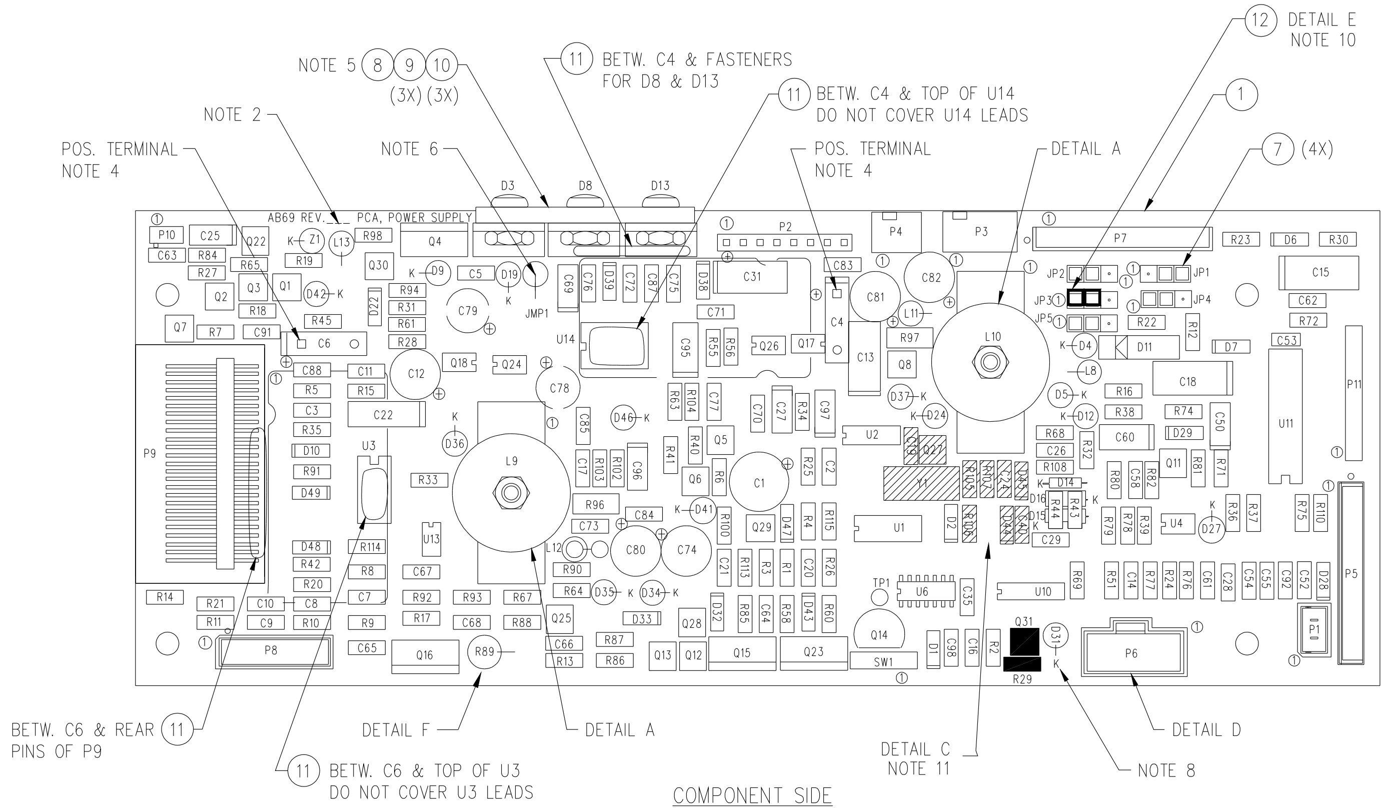
INVIVO RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE:
ASSEMBLY: AB69
PCA, POWER SUPPLY, 3500

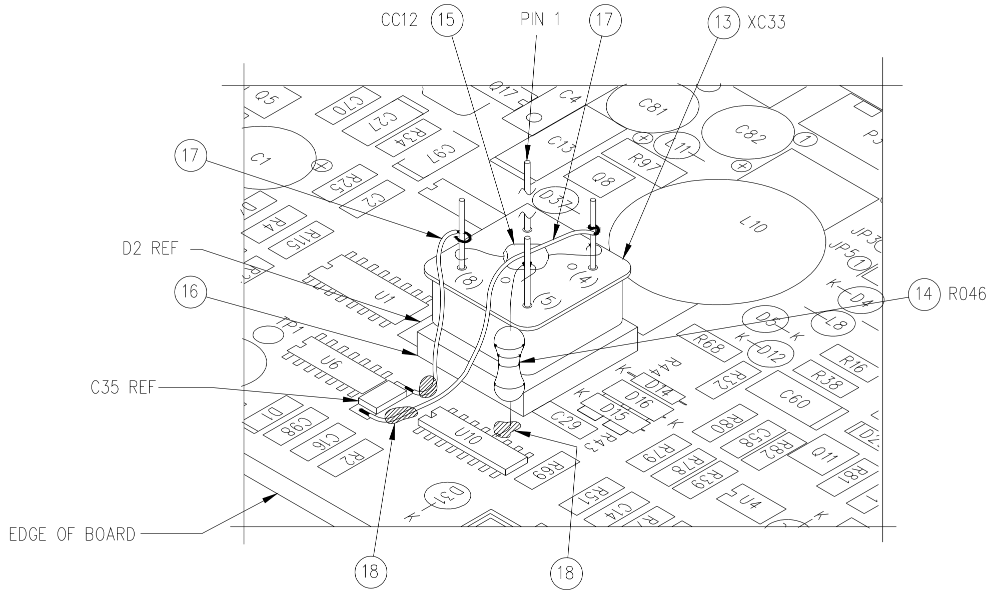
CAD SCALE:	SHEET:	DWG. NO.:	REV.:
2 : 1	1 of 2	194D651	AD

ECN8242

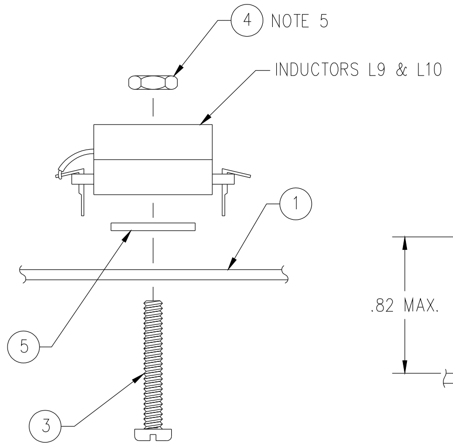
LF21 REV. B


NOTE 5 ⑧ ⑨ ⑩
(3X) (3X)
⑪ BETW. C4 & FASTENERS FOR D8 & D13
⑪ BETW. C4 & TOP OF U14 DO NOT COVER U14 LEADS
⑫ DETAIL E NOTE 10
①
⑦ (4X)
NOTE 2
POS. TERMINAL NOTE 4
NOTE 6
POS. TERMINAL NOTE 4
DETAIL A
AB69 REV. __ PCA, POWER SUPPLY
D3
D8
D13
P2
P4
P3
P7
P9
L9
L10
U14
U3
P5
P6
P8
P11
Q31
R29
BETW. C6 & REAR PINS OF P9 ⑪
⑪ BETW. C6 & TOP OF U3 DO NOT COVER U3 LEADS
DETAIL F
DETAIL A
DETAIL C NOTE 11
NOTE 8
DETAIL D

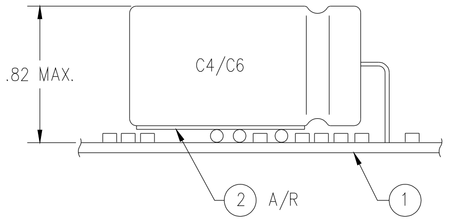
COMPONENT SIDE


CC12 ⑮
PIN 1
⑰
⑬ XC33
⑰
D2 REF
⑯
⑭ R046
C35 REF
EDGE OF BOARD
⑱
⑱
L10
U1
U6
U10

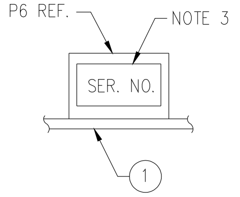
DETAIL C
NOTE 11
SCALE: NONE
COMPONENTS NOT SHOWN FOR CLARITY


④ NOTE 5
INDUCTORS L9 & L10
①
⑤
③

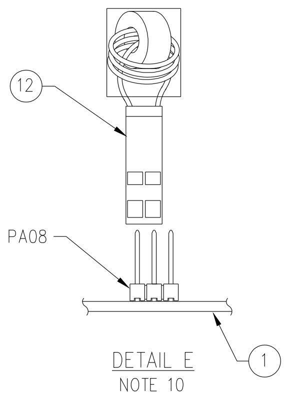
DETAIL A


.82 MAX.
C4/C6
② A/R
①

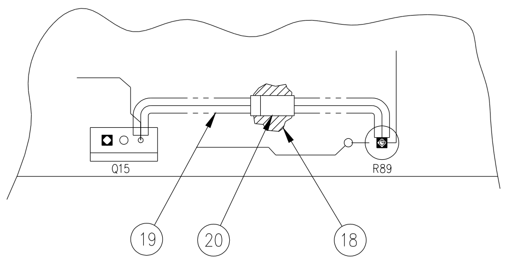
DETAIL B
NOTE 4


P6 REF.
NOTE 3
SER. NO.
①

DETAIL D



DETAIL E
NOTE 10



DETAIL F
SOLDER SIDE
NOTE 12

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .03
.XXX = ± ---
ANGLES = ± ---

DRAWN	SR	8/30/95
DESIGNED	SLN	8/22/95
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
DO NOT SCALE THIS DRAWING !!!

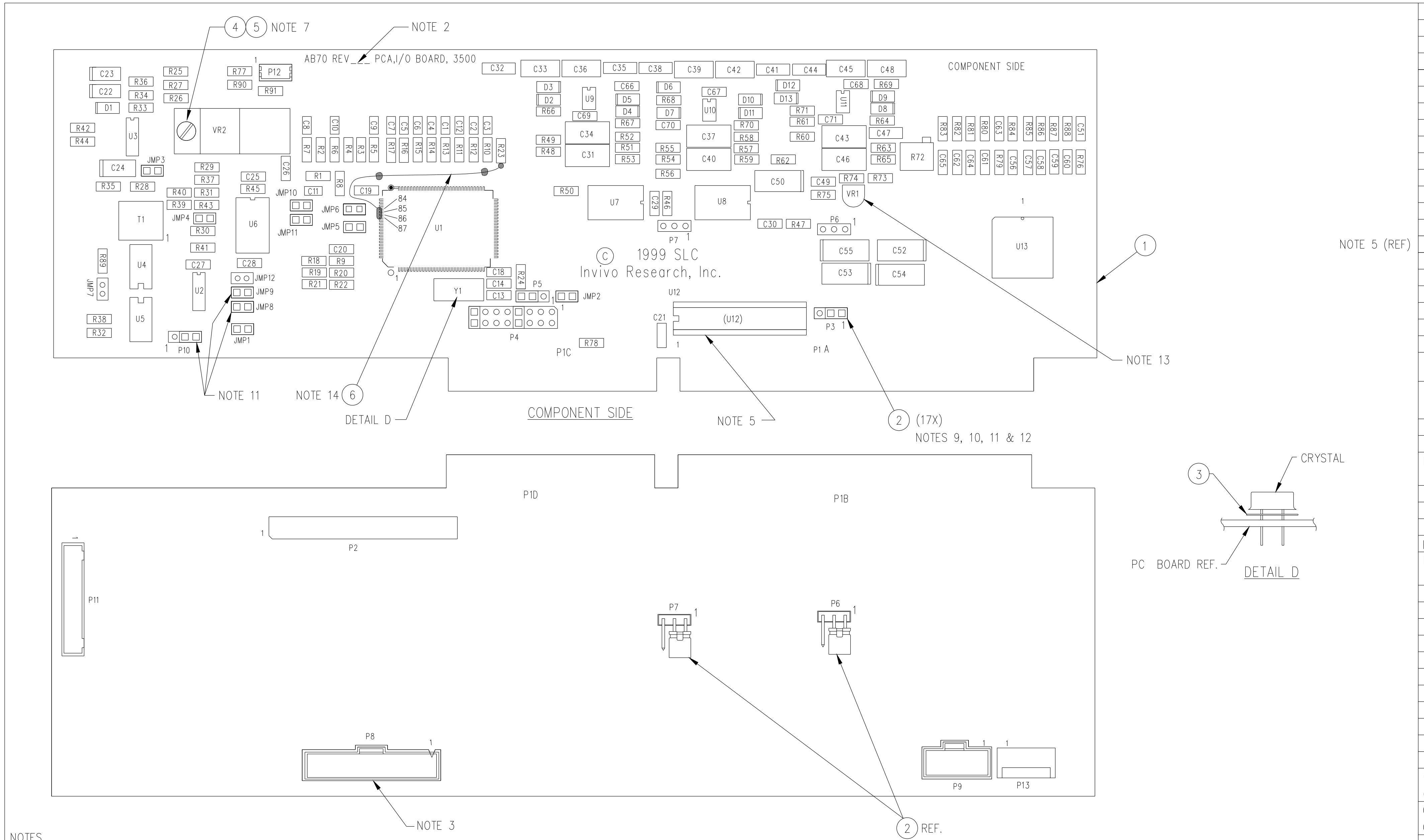
INVIVO RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE:
ASSEMBLY: AB69
PCA, POWER SUPPLY, 3500

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
2 : 1	2 of 2	194D651	AD

ECN8242

LF21 REV. B



NOTES

1. WORKMANSHIP TO CONFORM TO IPC CLASS II REQUIREMENTS.
2. USING INDELIBLE INK IN CONTRASTING COLOR, PLACE CURRENT ASSEMBLY REV. IN SPACE PROVIDED.
3. BOARD REQUIRES SERIALIZED LABELING WITH THE FOLLOWING INFORMATION: UNIQUE SERIAL NO., ASSEMBLY P/N & CURRENT REV. LEVEL. PLACE SERIAL NUMBER LABEL ON FLAT SIDE OF P8.
4. MAXIMUM COMPONENT HEIGHT OF ANY COMPONENT NOT TO EXCEED .580 UNLESS OTHERWISE NOTED.
5. U12 (AM45) TO BE INSTALLED AT FINAL ASSEMBLY.
6. LAY OVER C31, 34, 37, 40, 43 AND 46 TOWARDS TOP OF BOARD AS MUCH AS COMPONENTS WILL ALLOW. LAY OVER C32, 35, 38, 41, 44, & 47 TOWARDS THE CENTER OF THE BOARD. PREP COMPONENT LEADS TO 90° TO ALLOW COMPONENT BODY TO LAY PARALLEL TO BOARD SURFACE. HEIGHT NOT TO EXCEED .250.
7. APPLY LOCTITE #425 (M050) TO THREADS.
8. FOR NORMAL COMMUNICATION CONFIGURATION, INSTALL ALL P/N PA318B SHUNTS (ITEM 2) AS SHOWN.
9. FOR SpO2 UNITS, REMOVE P/N PA318B SHUNTS (ITEM 2) FROM JMP10 AND JMP11.
10. FOR 3500CT UNITS, REMOVE P/N PA318B SHUNT (ITEM 2) FROM JMP3 AND JMP6. INSTALL P/N PA318B SHUNT (ITEM 2) AT JMP12.
11. FOR TELEMETRY UNITS, REMOVE P/N PA318B SHUNT (ITEM 2) FROM P10, PINS 2 & 3, AND INSTALL P/N PA318B SHUNT (ITEM 2) AT P10, PINS 1 & 2. REMOVE P/N PA318B SHUNTS (ITEM 2) FROM JMP8 AND JMP9.
    FOR 3156-1 OR 3155MVS-4-1 HARDWIRE OPTION, INSTALL P/N PA318B (ITEM 2) ON P10, PINS 2 & 3; JMP8, PINS 1 & 2 AND JMP9, PINS 1 & 2.
12. SHUNTS ARE TO BE CONFIGURED AT FINAL ASSEMBLY.
13. BEND VR1 TOWARDS REAR OF BOARD TO ALLOW MAX. CLEARANCE.
14. USE SOLDER TO SHORT U1, PINS 84, 85, 86 & 87 TOGETHER. SOLDER P/N W004A JUMPER WIRE (ITEM 6) FROM R23 (SIDE CLOSEST TO U1) TO U1 PINS 84, 85, 86 & 87. SECURE WIRE WITH TAK-PAK AS SHOWN.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
R77	RX120	1	RES, 3.92K, .125W, 1%, 100 PPM, 1206
P12	PA348	1	CONN, 2P, HDR, ST, (.098)
VR2	IR55	1	REGULTR,AJUSTBL,LW DROP-OUT,LM2941C
P11	PA349	1	CONN,12P,HDR,SR,HIROSE DF3 TYPE (.079)
Y1	XC20	1	CRYSTAL, 24 MHZ
VR1	IR09	1	REGULATOR, POSITIVE, LM317LZ
U13	INX02	1	I/O, PARALLEL, 8255, CMOS, 44PLCC
U9-11	ILX09	3	IC, OP-AMP, DL. LWPWR, SO8, LM358
U7-8	ILX20	2	IC, CNVTR, (ILX20A-MAXIM ONLY)
U6	ICX31	1	IC, RS232 DRV/RCV, W/SHON, LT1039
U4-5	IL65	2	I.C., 8P, DUAL OPTO ISOLATOR, MCT62
U3	ICX40	1	ISO RS232 DRVR, MAX251, 14P, SOIC
U2	ICX41	1	ISO RS232 DRVR, MAX250, 14P, SOIC
U1	ICX43	1	CNTRLR, I/O-PERIPH, 82C735, 80SMT
XU12	P032	1	SOCKET, 24 PIN DIP, LOW-PROFILE, .300
T1	T048	1	TRANSFORMER, SERIAL ISO, BH MINI
R74	RX147	1	RES, 200 OHM, 1%, .125W, 100PPM, CH
R73	RX121	1	RES, .499 OHM, 1/4W, 1%, 100PPM, 1206
R72	RP71	1	RES, POT, 200 OHM, 10%, .25W, CERM
R66-71,76	RX42	7	RES, 100 OHM, 5%, 1/8W, 200PPM, 1206
R90	RX153	1	RES, 619 OHM, .125W, 1%, 100 PPM, 1206
R50,53,56,59, R62,65	RX140	6	RES, 12.1K, 1/8, 1%, 100PPM, 1206
R48,49,51,52, R54,55,57,58, R60,61,63,64	RX158	12	RES, 150K, 5%, 1/8W, 200PPM, 1206
R46-47	RX70	2	RES, 10 OHM, 5%, 1/8W, 200PPM, 1206
R45	RX50	1	RES, 22K, 5%, .125W, 200PPM, CHIP
R33-36,39-41, R43,78, 91	RX58	10	RES, 20K, 1/8W, 1%, 100PPM, 1206
R89	RX84	1	RES, 5.1K, .125W, 1%, 1206
R25-31,37	RX24	8	RES, 22 OHM, +/-5%, .125W, 200PPM, CP
R23	RX170	1	RES, 150 OHM, 1/4W, 5%, 200PPM, 1206
R18-22,32,38	RX23	7	RES, 1K, 5%, .125W, 200PPM, CHIP
R10-17,75, R79-88	RX91	19	RES, 220 OHM, 5%, 200PPM, 1/8W, 1206
R5-8	RX141	4	RES, 33 OHM, 1/8W, 5%, 200PPM, 1206
R1-4,9,24	RX08	6	RES, 4.7K, .125W, +/-5%
P9	PA284	1	CONN, 20P, DR, HDR, SHRD, .050 CTRS
P8	PA276	1	CONN, 40P, DR, HDR, SHRD, .050 CTRS
P4	PA385	1	CONN, 16P, DR, HDR, ST, UNSHRD, .100 CTR
P3,5,10	PA387	3	CONN, 3P, SR, HDR, ST, UNSHRD, .100 CTR
P2	PA386	1	CONN, 34P, DR, HDR, ST, UNSHRD, .100 CTR
JMP1-12	PA318A	12	CONN, 2P, SR, HDR, ST, .100 LP, GOLD
D1-13	DDX01	13	DIODE, SIGNAL, LEADLESS, 500MW
C56-65	CX13	10	CAP, .001UF, 10%, 50VDC, X7R, CHIP
C50,52-55	CXT05	5	CAP, 10UF, 20%, 35V, SIZE-D, TANT
C33,36,39,42, C45,48	CP31	6	CAP, .033UF, 5%, 50V, POLYEST
C32,35,38,41, C44,47	CP07	6	CAP, .01UF, 2%, 50V, POLYEST
C31,34,37,40, C43,46	CP36	6	CAP, .33UF, 5%, 50VDC, POLYESTER
C24	CXT12	1	CAP, 4.7UF, 20%, 16V, TANT, 3528 PKG
C18-21,25-30, C49,66-71	CX22	17	CAP, .1UF, 10%, 50V, X7R, 1206, CHIP
C22,23	CXT04	2	CAP, 1uF, 20%, 35VDC, CHIP, TANT.
C13,14	CX25	2	CAP, 22PF, 5%, X7R, 50V, 1206
C1-12	CX31	12	CAP, 2200PF, 10%, 50V, X7R, 0805, CHIP
3	HI37	1	INSULATOR, CRYSTAL, MYLAR
2	PA318B	17	SHUNT, 2P, .100 CTRS, LOW PROFILE
1	B146	1	PCB, MULTI-FUNCTION I/O, 3500 REV. G
6	W004A	A/R	WIRE, 30 GA., WRAP/ROLL
R42, 44	RX12	2	RES., 2.2K, 5%, .125W, 250PPM, 1206
C51	CX35	1	CAP., 150pF, 5%, 50V, NPO, 1206, CER.
P6,P7	PA393	2	CONN, 3P, SR. HDR, RA, .UNSHD., .100 CTRS
P13	PA287	1	CONN, 5P, SR, HDR, RA, .049 CTRS
5	N002	1	NUT, HEX, #4-40, ZINC
4	NS78	1	SCREW, #4-40 X 5/16 FHMS, ZINC

REV.	DESCRIPTION	BY	DATE	REV.	DESCRIPTION	BY	DATE	REV.	DESCRIPTION	BY	DATE	REV.	DESCRIPTION	BY	DATE
				V	PER ECN #7475	CHY	27DEC99	L	PER ECN #5598M	SLC	26FEB97	D	PER ECN #4895	JRB	3/20/96
AD	PER ECN #7930	CHY	11JUN01	U	PER ECN #7375	SLC	17SEP99	K	PER ECN #5564	SLC	11FEB97	C	PER ECN #4827	SLC	2/23/96
AC	PER ECN #8313	CHY	10MAY01	T	PER ECN #7009	CHY	22JAN99	J	PER ECN #5455	SLC	20DEC96	B	PER ECN #4745	JRB	1/17/96
AB	PER ECN #8181	CHY	22MAR01	R	PER ECN #6966	CHY	9DEC98	H	PER ECN #5415	SLC	25NOV96	A	RELEASED, ECN #4695	SLC	12/18/95
AA	PER ECN #8255	CHY	13MAR01	P	PER ECN #6772	ALH	10AUG98	G	PER ECN #5200	RHK	01AUG96				
Y	PER ECN #7860	CHY	19DEC00	N	PER ECN #5718M	CHY	12MAY97	F	PER ECN #5163M	SLC	17JUL96				
W	PER ECN #7663	CHY	22MAY00	M	PER ECN #5599	SLC	26FEB97	E	PER ECN #4972M	CHY	4/16/96				

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± ——
.XXX = ± ——
ANGLES = ± ——

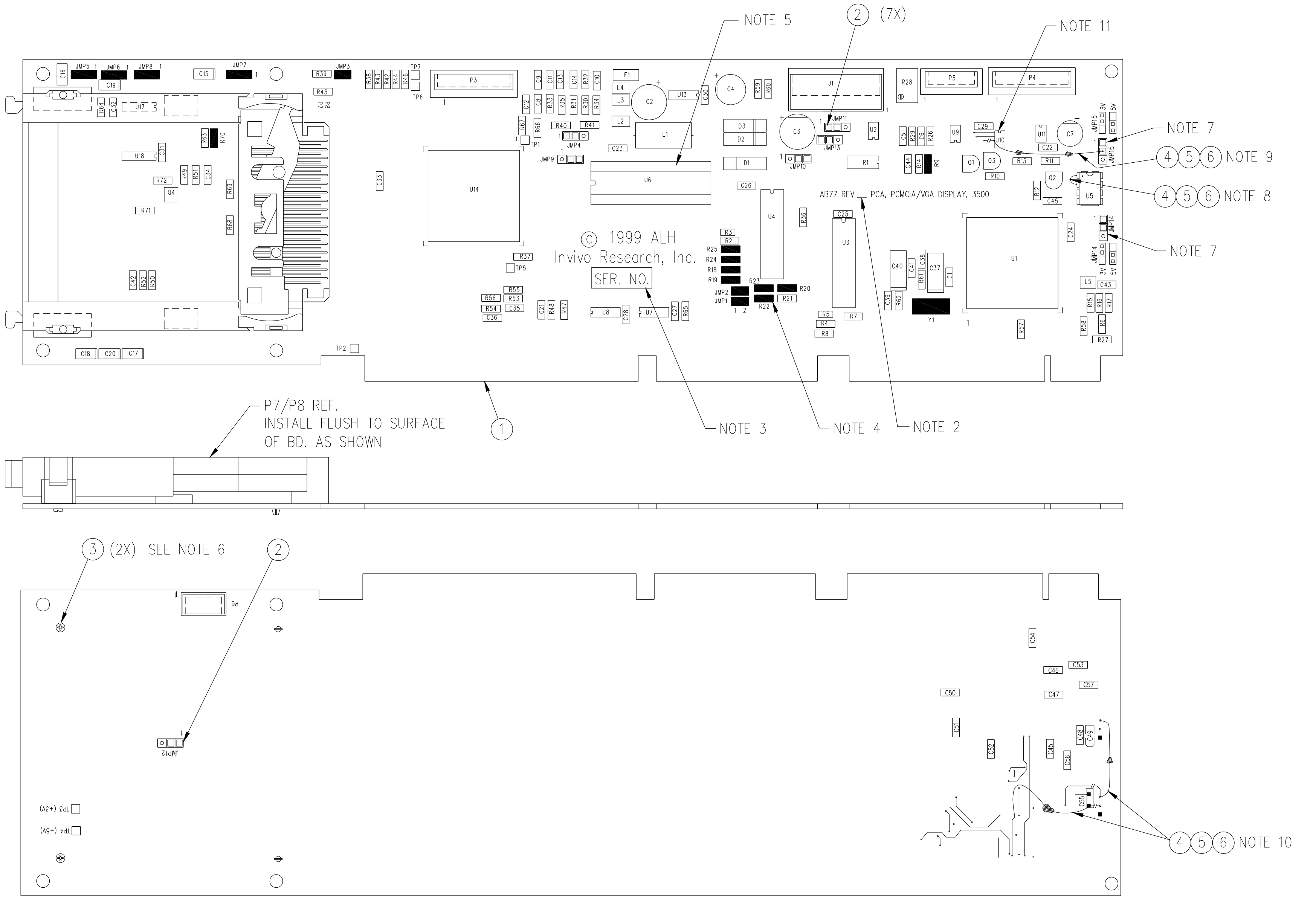
DRAWN	R. KEMP	11/8/95
DESIGNED	SLN	11/8/95
CHECKED		
APPROVED		

←INCHES→
THIRD ANGLE PROJECTION
DO NOT SCALE THIS DRAWING !!!

Invivo Research Inc.
PRECISION BIOMEDICAL INSTRUMENTS
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
ASSEMBLY: AB70
PCA, MULTI-FUNCTION I/O, 3500

CAD SCALE	SHEET	DWG. NO.	REV.
2:1	1 of 1	194D652	AD



NOTES

1. WORKMANSHIP TO CONFORM TO IPC CLASS II REQUIREMENTS
2. USING INDELIBLE INK IN CONTRASTING COLOR, PLACE CURRENT ASSEMBLY REV. IN SPACE PROVIDED
3. BOARD REQUIRES SERIALIZED LABELING WITH THE FOLLOWING INFORMATION: UNIQUE SERIAL NO., ASSEMBLY P/N & CURRENT REV. LEVEL.
   PLACE SERIAL NUMBER LABEL IN THIS AREA– ORIENT AS SHOWN
4. COMPONENTS SHOWN AS SOLID ARE TO BE OMITTED
5. U6 TO BE INSTALLED AT FINAL ASSEMBLY
6. ADD ONE DROP OF LOCTITE 425 (M050) TO SCREW THREADS BEFORE INSTALLING SCREW.
7. JUMPER SETTINGS FOR JMP14 AND JMP15.
   FOR 3V DISPLAY JUMPER PINS 1 AND 2 (DEFAULT SETTING)
   FOR 5V DISPLAY JUMPER PINS 2 AND 3
8. IF U5–2 IS LIFTED, REMOVE P/N W004A JUMPER WIRE (ITEM 4) FROM R11 AND U5–2. CONNECT U5–2 AND U5–1 WITH P/N W004A JUMPER WIRE (ITEM 4) AND SECURE WITH P/N M107 ADHESIVE (ITEM 5) & P/N M019 ACCELERATOR (ITEM 6).
   IF U5–2 IS NOT LIFTED, DO NOT ADD P/N W004A JUMPER WIRE (ITEM 4) FROM U5–2 TO U5–1.
9. CUT TRACE AT U10–3 AS SHOWN. CONNECT P/N W004A JUMPER WIRE (ITEM 4) TO U10–3 AND JMP15–2. VERIFY THE JUMPER WIRE IS CONNECTED NEAR THE BOTTOM OF JMP15–2, ALLOWING A SHUNT TO BE INSTALLED. SECURE JUMPER WIRE WITH P/N M107 ADHESIVE (ITEM 5) AND P/N M019 ACCELERATOR (ITEM 6).
10. CUT TRACES AT JMP15–2 AND JMP15–3 AS SHOWN. CONNECT P/N W004A JUMPER WIRE (ITEM 4) FROM JMP15–3 TO JMP14–3. CONNECT ANOTHER JUMPER WIRE FROM C55 TO TRACE AS SHOWN. SECURE JUMPER WIRES WITH P/N M107 ADHESIVE (ITEM 5) AND P/N M019 ACCELERATOR (ITEM 6).
11. CAREFULLY LIFT PIN 1 ON U10 AWAY FROM PAD AND VERIFY ELECTRICAL CLEARANCE. SECURE USING P/N M107 ADHESIVE (ITEM 5).

JUMPER SETTINGS

DISPLAY	3500 OPTION	JMP10*	JMP13
1. ACTIVE	3503–1	NOT USED	NOT USED
2. EL	3503–2	NOT USED	2–3 (+12SAFE)
3. PASSIVE	3503–3	NOT USED	1–2 (VCON)

* ENGINEERING NOTES FOR OLDER PASSIVE PANELS THAT USE VEE:
1. JMP10 POSITION 2–3 IS +27V (+VEE)
2. JMP10 POSITION 1–2 IS –27V (–VEE)
3. IF JMP10 IS USED, JMP13 IS NOT USED.

NOTE 5

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
C57	CX35	1	CAP, 150pF, 5%, 50V, NPO, 1206
U5	IR65	1	IC, VOLTAGE REG., 3.3V, DIP8
C49	CXT22	1	CAP, 10UF, 10%, 10V, TANT., 3216
F1	FU17	1	FUSE, 500mA, .125W
C43,44	CX06	2	CAP, 10PF, 20%, 50V, COG, 1206, CER.
L5	TX08	1	INDUCTOR, 0.47uH, 20%, 1210
Q4	QX00	1	TRANS, NPN, SILI, SO23, TYPE 2222
R72	RX19	1	RES, 2K, 5%, .125W, 200PPM, CHIP
3	NS94	2	SCREW, M2 X 12 PHMS–XR
C15–20	CXT04	6	CAP, 1UF,20%, 35V, TANTALUM CHIP
U14	ICX45	1	CONTROLLER PC SOCK. VGA–469
L2,3,4	TX05	3	INDUCTOR, 5.6uH, 10%, 100mA, SMT
U3,4	IMX04	2	IC, DRAM, 256K x 16 BIT, SOJ–40
L1	T027	1	COIL, 220uH
U17,18	ICX48	2	IC, INTRFC.SW, PCMCIA, SO–16
R42–46,63, R64	RX17	7	RES, 100K, 1%, .125W, 200 PPM, CHIP
R29	RX189	1	RES, 301K, 1%, .125W, 100 PPM, 1206
R15–17	RX170	3	RES, 150 OHM, 5%, .25W, 200 PPM, 1206
R3,5	RX165	2	RES, 1 OHM, 5%, .1W, 200 PPM, 0805
R8,51–54	RX163	5	RES, 100 OHM, 1%, .125W, 100 PPM CHP
R7,27,30–33 36,48, 59–60	RX141	10	RES, 33 OHM, 5%, .125W, 200 PPM, 1206
R47,61,62	RX70	3	RES, 10 OHM, 5%, .125W, 200 PPM, 1206
R6	RX58	1	RES, 20K, 1%, .125W, SMD 1206
R10,12,13,49 50,55–57, 65–69	RX57	13	RES, 10K, ±1%, .125W, SMD 1206
R26	RX52	1	RES, 8.2K, 5%, .125W, 200 PPM
R58	RX47	1	RES, 270 OHM, 5%, .125W, 200 PPM CP
R11,14	RX18	2	RES, 49.9K, 1%, .125W, 200 PPM CHIP
R21,37–41,71	RX08	7	RES, 4.7K, ±5%, .125W
R2,4,34,35	RX01	4	RES, 1 MEG., ±5%, .125W
R1	RNX01	1	RES. NTWK, 33 OHM X 8,2%,100PPM
R28	RP63	1	RES, POT, 50K, ±10%, .5W, 20T,TRIM
U11	QX12	1	IC, TRANS, DUAL P–CH, MOSFET, SO–8
U2	QX11	1	IC, TRANS, DUAL N–CH, MOSFET, SO–8
Q1–3	Q020	3	XSTR., TO–92, 2N3904 NPN
J1	PA290	1	CONN, 26P, DR.HDR, RA, SHRD, .079
P7/P8	PA260	1	RCPT., PCMCIA MEM. CARD., 2 SLOT
P6	PA287	1	CONN, 5P, SR.HDR, RA, .049 CTRS.
P5	PA263	1	CONN, 10P, SR.HDR, RA, SHRD, .049
P3,4	PA261	2	CONN, 15P, SR.HDR, RA, SHRD, .049
U9	IRX05	1	IC, REGULATOR, 10W, CMOS, SO–8
JMP4, 9–15	PA08	8	HEADER, UNSH, SR.3P, (.10)
2	PA66	8	SHUNT, 2 POSITION, .10 CTRS.
TP1–7	PA00	7	CONN, 1P, SR. HDR, ST, UNSHRD, (.10)
XU6	P026	1	SCKT, 28P DIP, LO–PRO, .10 CTRS.
U13	ICX47	1	IC, QUAD BUFFER, 14P, SOIC, 74ACT
U1	ICX46	1	IC, VGA CNTRLR, SQFP, 65545, 208P
U8	ICX33	1	NAND GATE, QUA, 74ACT00, 14P, SOIC
U7	ICX32	1	OR GATE, QUADZ, 74ACT32, 14P, SOIC
D1–3	D015	3	RECTIFIER, 1N4935, 200V
C37,40	CXT01	2	CAP, 47uF, 20%, 10VDC, CHIP, TANT
C8–10	CX34	3	CAP, 220pF, 5%, 50V, NPO, 1206, SMD
C11,14	CX30	2	CAP, .001uF, 5%, 50V, COG, 1206, CHP.
C12,13	CX25	2	CAP, 22pF, 5%, 50V, X7R, 1206, SMD
C1,5,22–33,38 39,41,45–48 C50–56	CX22	28	CAP, .1uF, 10%, 50V, X7R, 1206, CHP.
C6,21	CX11	2	CAP, .01uF, 10%, 50V, X7R, CHP, CER.
C34–36,42	CX09	4	CAP, 100pF, 10%, 50V, COG, CHP, CER.
C4	CT24	1	CAP, 10uF, 10%, 50V, RAD, TANT.
C2,3	CA39	2	CAP, 100uF, 20%, 63V, AL, RAD, 10x12
C7	CA06	1	CAP, 100uF, 20%, 35V, AL, RAD.
1	B156	1	PCB, PCMCIA/VGA DISPLAY, REV. D

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
U10	QX20	1	IC, TRANS, DUAL, P–CH, MOSFET, SO–8, SI9933
6	M019	A/R	ACCELERATOR, TAC PAK, LOCTITE, 710
5	M107	A/R	ADHESIVE, LOCTITE TAK PAK 382
4	W004A	A/R	30 GAGE WIRE WRAP/ROLL

REV.	DESCRIPTION	BY	DATE
P	PER ECN #8864	CHY	17MAY02
N	PER ECN #8348	CHY	29MAY01
M	PER ECN #8269	CHY	15MAR01
L	PER ECN #7899	CHY	25AUG00
K	PER ECN #7346	ALH	23AUG99
J	PER ECN #6571	CHY	3JUN98
H	PER ECN #6139	KCO	30DEC97
G	PER ECN #5660	CHY	29APR97
F	PER ECN #5302	KCO	17SEP96
E	PER ECN #5277	SLC	6SEPT96

REV.	DESCRIPTION	BY	DATE
D	PER ECN #5201	RHK	02AUG96
C	PER ECN #5128M	SLC	28JUN96
B	PER ECN #4743	SLC	1/12/96
A	RELEASED, ECN #4670	CB	12/12/95

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UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± ——
.XXX = ± ——
ANGLES = ± ——

DRAWN	CHY	8/1/95
DESIGNED	SLN	8/1/95
CHECKED		
APPROVED		

← INCHES →

THIRD ANGLE PROJECTION

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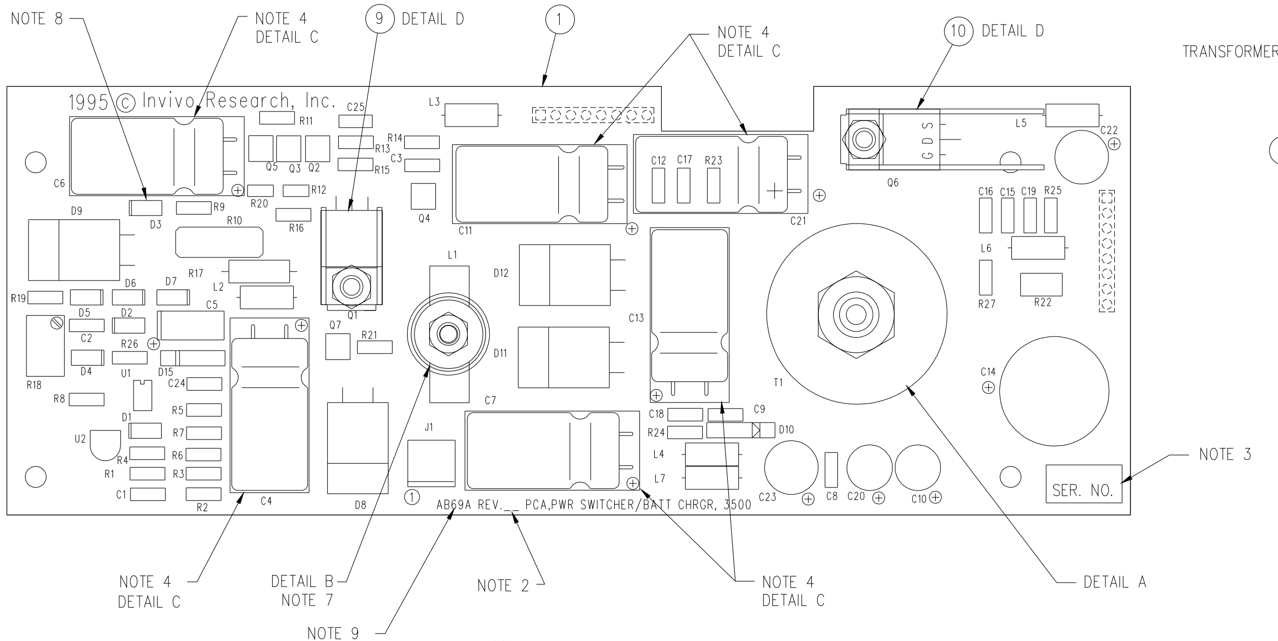
INVIVO
RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE ASSEMBLY: AB77
PCA, PCMCIA/VGA DSPLY, 3500

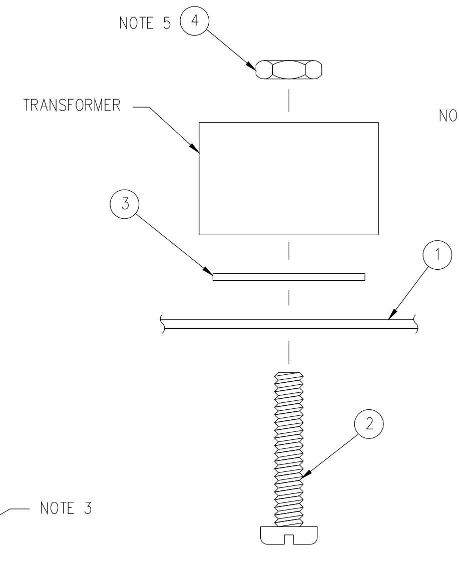
CAD SCALE 1.5 : 1
SHEET 1 of 1
DWG. NO. 194D669
REV. P

ECN8242

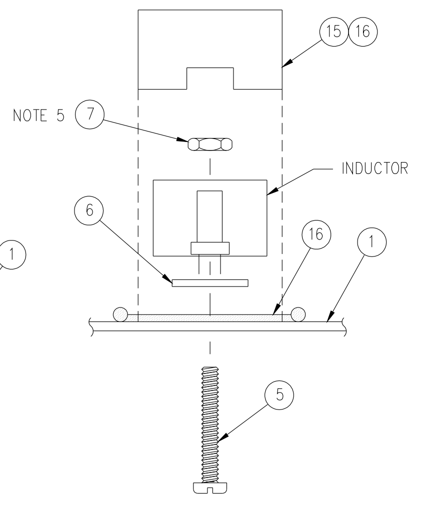
LF21 REV. B


NOTE 8
NOTE 4
DETAIL C
9 DETAIL D
1
NOTE 4
DETAIL C
10 DETAIL D
1995 © Invivo Research, Inc.
C25 R11 L3 L5 C22 C6 Q5 Q3 Q2 R14 R13 C3 R15 R12 R20 D9 D3 R9 R10 R16 Q4 Q6 C12 C17 R23 C21 C16 C15 C19 R25 L6 R27 R22 R17 L2 D6 D7 R19 C5 Q1 Q7 R21 L1 D12 D11 C13 T1 C14 D5 D2 C2 R26 D4 U1 D15 C24 R18 R8 D1 R5 R7 U2 R4 R6 R3 R1 C1 R2 C4 D8 J1 C7 C18 C9 R24 D10 L4 L7 C23 C8 C20 C10
SER. NO.
AB69A REV.__ PCA,PWR SWITCHER/BATT CHRGR, 3500
NOTE 3
NOTE 4
DETAIL C
DETAIL B
NOTE 7
NOTE 2
NOTE 4
DETAIL C
DETAIL A
NOTE 9

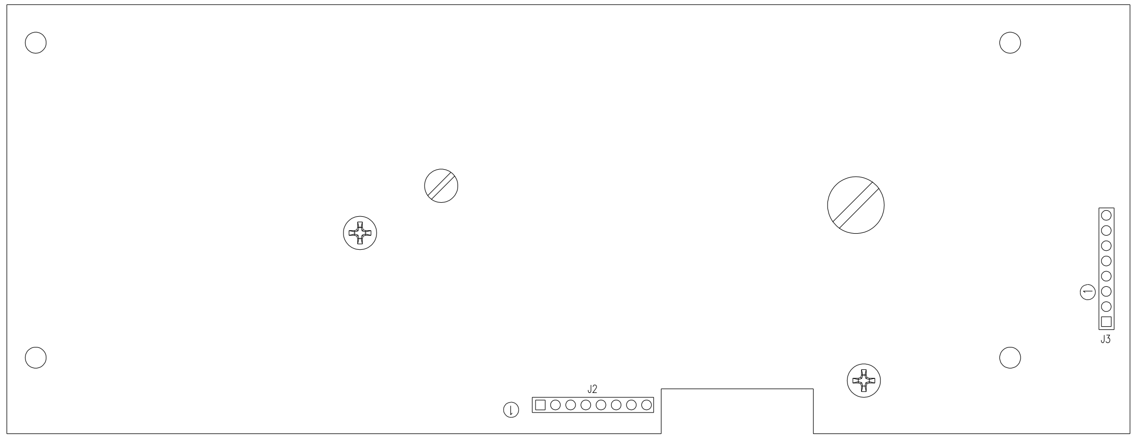
COMPONENT SIDE


NOTE 5 4
TRANSFORMER
3
1
2

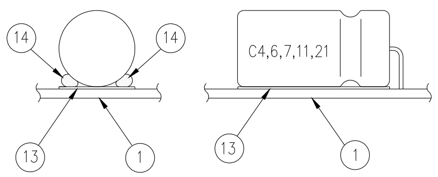
DETAIL A


15 16
NOTE 5 7
INDUCTOR
6
16
1
5

DETAIL B

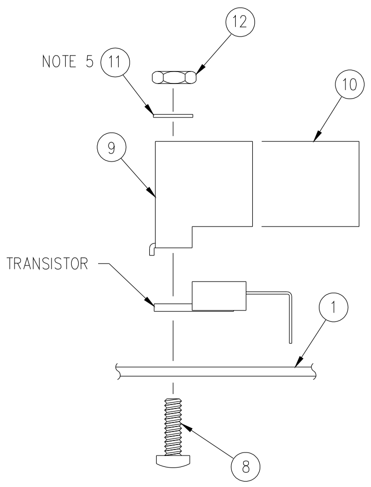


SOLDER SIDE


14
14
13
1
C4,6,7,11,21
13
1

DETAIL C

(5X)


12
NOTE 5 11
10
9
TRANSISTOR
1
8

DETAIL D

NOTES:

1. WORKMANSHIP TO CONFORM TO IPC CLASS II REQUIREMENTS
2. USING INDELIBLE INK IN CONTRASTING COLOR, PLACE CURRENT ASSEMBLY REV. IN SPACE PROVIDED
3. BOARD REQUIRES SERIALIZED LABELING WITH THE FOLLOWING INFORMATION:
   UNIQUE SERIAL NO., ASSEMBLY P/N & CURRENT REV. LEVEL
   PLACE SERIAL NUMBER LABEL IN THIS AREA – ORIENT AS SHOWN
4. C4, C6, C7, C11, C13, AND C21 TO BE BENT OVER PARALLEL TO PCB AS SHOWN IN DETAIL C. IF NECESSARY, PLACE A 1.00 LG. PIECE OF TAPE (ITEM 13) ON THE UNDERSIDE OF EACH CAP TO HOLD IN PLACE. APPLY ADEQUATE AMOUNT OF CLEAR RTV (ITEM 14) ALONG SIDE(S) OF CAPACITORS TO FASTEN SECURELY TO BOARD. DO NOT COVER ANY COMPONENTS OR COMPONENT LEADS w/RTV.
5. ADD ONE DROP OF LOCTITE ASSURE (M050) TO END OF SCREW BEFORE INSTALLING NUT
6. MAXIMUM COMPONENT HEIGHT OF ANY COMPONENT NOT TO EXCEED .915
7. APPLY SUFFICIENT AMOUNT OF ITEM 16 (M065) ADHESIVE TO COMPLETELY ENCIRCLE AND SECURE ITEM 15 (HM67) SHIELD TO POTCORE AT LOCATION L1.
8. OMIT REF. DES. D3 (DDX01) ON AB191A.
9. FOR AB191A; USING INDELIBLE INK IN CONTRASTING COLOR, CROSS OUT "AB69A" ON SILKSCREEN. (AB191A PART NO. TO BE ON LABEL PER NOTE 3.)

APPLICATION CHART

ASSEMBLY	P/N	ITEM/REF. DES.	QTY.	USED ON
AB69A	DDX01	D1–7	7	3500
AB191A	DDX01	D1, D2, D4–7	6	3550 (M12)

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
16	M065	REF	ADHESIVE/SEALANT, AQUARIUM, CLEAR
C25	CX13	1	CAP, .001uF, 10%, 50V, X7R, 1206, CER.
15	HM67	1	SHIELD, POTCORE
R12	RX212	1	RES, 619 OHM, 1%, .125W, 100PPM, 0805
D15	DZ13	1	ZENER, 1N5246B, 16V, 500MW
U2	IR09	1	REGULATOR, POSITIVE, LM317LZ
U1	ILX07	1	OP AMP, LWPWRJFET INPT, 34182, SO8
T1	T056	1	TRANSFORMER, POWER
R26	RX77	1	RES, 680 OHM, 5%, .125W, 200PPM, 1206
R23,24,25	RX49	3	RES, 330 OHM, 5%, .125W, 200PPM, 1206
R22	RX188	1	RES, .01 OHM, 1%, .1W, 75 PPM, 2512
R19	RX83	1	RES, 1K, 1%, .125W, 1206 SMD
R18	RP80	1	RES, 2K POT, 10%, .5W, 25T, TOP ADJUST.
R17	R189	1	RES, 1.5 OHM, 5%, 1W, METAL OXIDE
R16	RX02	1	RES, 1K, .125W, 5%, 1206 SMD
R15	RX183	1	RES, 750 OHM, 5%, .125W, 200PPM, 1206
R13,14	RX20	2	RES, 470 OHM, 5%, .125W, 200PPM, 1206
R20	RX191	1	RES, 162 OHM, .1W, 1%, 0805 SMD
R11	RX21	1	RES, 20K, 5% .125W, 200PPM, 1206
R10	R079	1	RES, 5.1 OHM, 5%, 1/4W, 5%, CARBON FILM
R9	RX182	1	RES, 3K, 5%, .125W, 200PPM, 1206 SMD
R8	RX180	1	RES, 75K, 5%, .125W, 200PPM, 1206 SMD
R6	RX46	1	RES, 1.2 MEG, 5% .125W, 200PPM, 1206
R5,7	RX01	2	RES, 1 MEG, 5% .125W
R4	RX57	1	RES, 10K, 1%, .125W, SMD, 1206
R3,21,27	RX40	3	RES, 10K, 5%, 125W, 200PPM, CHIP
R2	RX181	1	RES, 12K, 5%, 125W, 200PPM, 1206
R1	RX54	1	RES, 240 OHMS, 5%, .125W, 200PPM
Q6	Q056	1	TRANS, N–CHNL, PWR. MOSFET, TO–220
Q4,5	QX01	2	TRANS, PNP, SILI, SO23, TYPE 2907A
Q2,3,7	QX00	3	TRANS, NPN, SILI, SO23, TYPE 2222
Q1	Q026	1	D44H11 NPN SILICON POWER PAK
L2–7	T058	6	BEAD, 370 FERRITE, LEADED, 22 GA
L1	T057	1	INDUCTOR, 47UH, POT CORE
J2,3	PA291B	2	CONN, 8P, SR. RECPT. ST, .100 CTRS
J1	PA253	1	HEADER, FRTN. LCK, SR, 2P (.156)
D10	D008	1	DIODE, SCHOTTKY, 1A, 40V
D8,9,11,12	D030	4	DIODE, SCHOTTKY, 7.5 A, 45V
SEE CHART	DDX01	SEE CHART	DIODE, SIGNAL, LEADLESS, 500MW
C22,23	CA32	2	CAP, 100uF, 20%, 25V, MINI ALUM, RAD.
C19	CX38	1	CAP, .01uF, 20%, 100V, Z5U, 1206, CER.
C17,18	CX11	2	CAP, .01uF, 10%, 50V, X7R, CHIP, CER.
C14	CA29	1	CAP, 2200uF, 20%, 25V, ALUM, RAD.
C10,20	CA34	2	CAP, 220mF, 20%, 10V, ALUM, RAD.
C5	CXT05	1	CAP, 10uF, 20%, 35V, SIZE D, TANT.
C4,6,7,11,13,21	CA35	6	CAP, 1000uF, 20%, 25V, MINI ALUM, RAD.
C3	CX23	1	CAP, 1500pF, 5%, NPO, 50V, 1206 SMD
C1,2,8,9,12, 15,16,24	CX22	8	CAP, .1uF, 10%50V, X7R, 1206 CHIP
14	M008A	REF.	ADHESIVE/SEALANT, RTV, CLEAR, 732
13	M004	6.0	TAPE, ACRYLIC, DS, ,010 THK. x .50 WD..
12	N002	2	NUT, HEX, #4–40, ZN
11	NW09	2	LOCKWASHER, IT, SS, #4 X .200 X .020
10	HM59B	1	HEAT SINK, T0220, LARGE
9	HM59A	1	HEAT SINK, T0220, SMALL
8	NS26	2	SCR, #4–40 X 3/8 LG., PHMS–XR, ZN
7	N009	1	NUT, HEX, #4–40, NY
6	NW31	1	WASHER, .125 ID X .500 OD X .062 THK, NY
5	NS21	1	SCR, #4–40 X 3/4 LG., PHMS–NY
4	N030	1	NUT, HEX, #10–32, NY
3	NW30	1	WASHER, .222 ID X 1.00 OD X .040 THK, NY
2	NS92	1	SCR, #10–32 X 1" LG., PHMS–NY
1	B145A	1	PCB, PWR SWTCHR/BAT CHRGR, 3500 REV. B

REV.	DESCRIPTION	BY	DATE
K	PER ECN #8761	SR	5APR02

REV.	DESCRIPTION	BY	DATE
J	PER ECN #5589	KCO	17APR97
H	PER ECN #5436	SLC	09JAN97
G	PER ECN #5434	SLC	07JAN97
F	PER ECN #5312	CHY	26SEP96
E	PER ECN #5173M	SLC	19JUL96
D	PER ECN #5151M	SLC	03JUL96

REV.	DESCRIPTION	BY	DATE
C	PER ECN #5062M	CHY	5/23/96
B	PER ECN #4818	CHY	3/5/96
A	RELEASED, ECN #4631	SLN	11/14/95
01	PROTOTYPE REVISION	SR	8/26/95

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.XX = ± ——
.XXX = ± ——
ANGLES = ± ——

DRAWN	SR	8/18/95
DESIGNED	SN	8/18/95
CHECKED		
APPROVED		

INCHES

THIRD ANGLE PROJECTION

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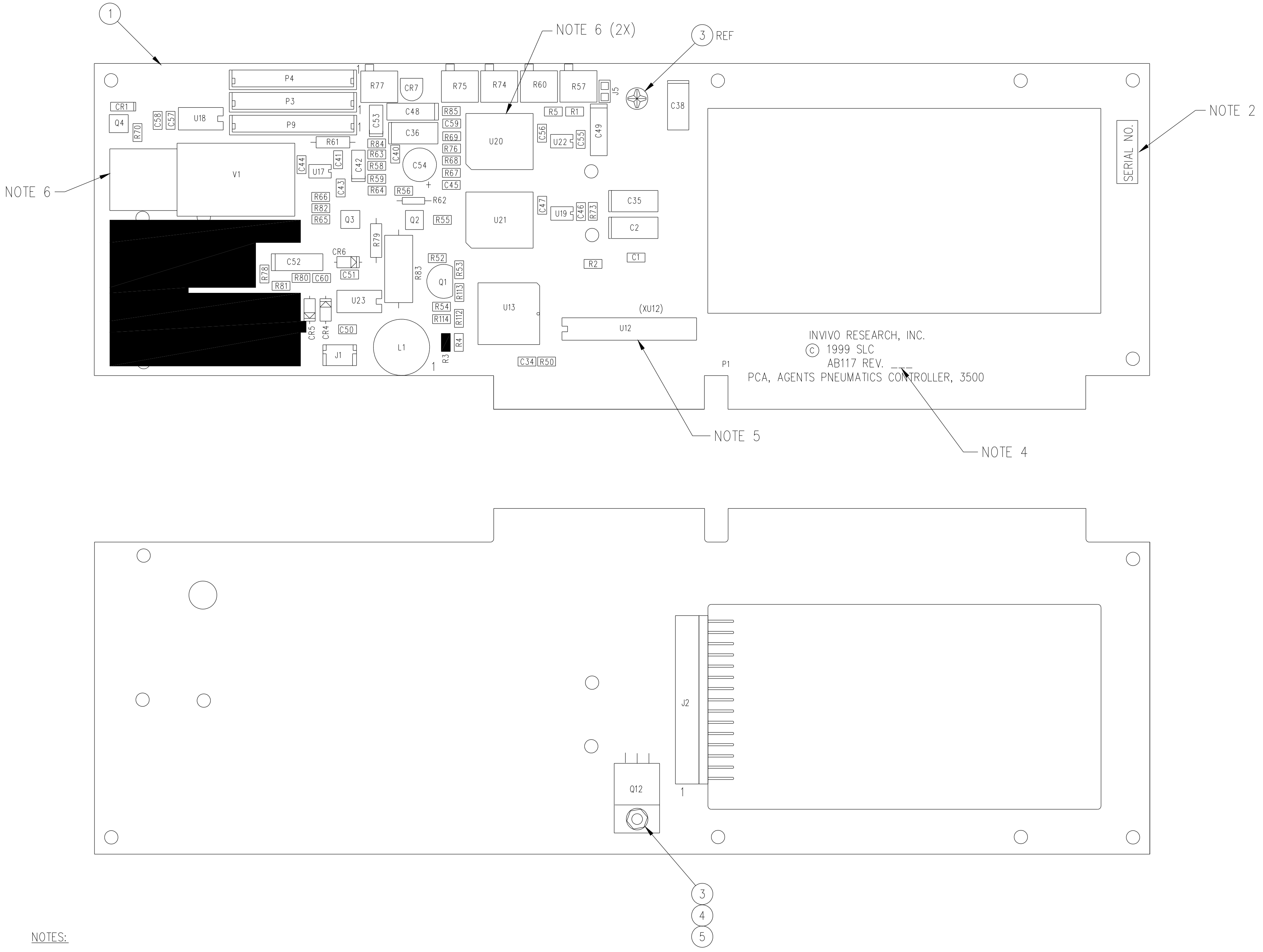
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
ASSEMBLY: AB69A/AB191A
PCA, PWR SWTCHR/BAT CHRGR, 3500/3550

CAD SCALE	SHEET	DWG. NO.	REV.
2 : 1	1 OF 1	194D680	K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NOTE 6 (2X)
3 REF
NOTE 2
SERIAL NO.
NOTE 6
P4
P3
P9
R77
CR7
R75
R74
R60
R57
J5
C38
CR1
Q4
R70
C58
C57
U18
V1
R61
C53
C48
C36
C40
C54
R85
C59
R69
R76
R68
R67
C45
U20
R5
R1
C56
U22
C55
C49
C44
U17
C41
C42
R63
R58
R59
R64
R84
C43
R66
R82
R65
Q3
R56
R62
Q2
R55
U21
C47
U19
C46
R73
C35
C2
R79
C52
CR6
C51
R78
R80
C60
R81
R83
R52
Q1
R53
R113
R54
R114
R112
U13
U23
CR5
CR4
C50
J1
L1
R4
R3
C34
R50
(XU12)
U12
C1
R2
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AB117 REV. __
PCA, AGENTS PNEUMATICS CONTROLLER, 3500
P1
NOTE 5
NOTE 4
J2
Q12
3
4
5

NOTES:

1. WORKMANSHIP TO CONFORM TO IPC CLASS II REQUIREMENTS.
2. BOARD REQUIRES SERIALIZED LABELING WITH THE FOLLOWING INFORMATION:
   UNIQUE SERIAL NO., ASSEMBLY P/N & CURRENT REV. LEVEL.
   PLACE SERIAL NUMBER LABEL IN THIS AREA–ORIENT AS SHOWN.
3. COMPONENTS SHOWN AS SOLID, ARE NOT TO BE INSTALLED.
4. USING INDELIBLE INK IN CONTRASTING COLOR, PLACE CURRENT ASSEMBLY REV.
   IN SPACE PROVIDED.
5. U12 (AM62) TO BE INSTALLED AT NEXT ASSY (AS159).
6. HAND SOLDER HP88A (V1), HP52 (U20) & HP53 (U21) USING "NO CLEAN" SOLDER.
   DO NOT IMMERSE OR OTHERWISE CONTAMINATE SENSOR. DO NOT CLEAN IN VAPOR
   DEGREASER.

NOTE 5

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
U12	AM62	REF	PROM SET, PNEUM. CONT., AGENT I.D.,3500
5	NW44N	1	WASHER, LOCK, SPLIT, #4
4	N007	1	NUT, HEX, #4–40
3	NS04	1	SCR, #4–40 X 1/4 LG
L1	T042	1	TORROID, 100uH
2	PA66	1	SHUNT, 2 POSITION, .10 CENTERS
R63	RX259	1	RES, 47.5K, 1%, .10W, 25PPM, 0805
R1	RX257	1	RES, 30.9K, 1%, .10W, 25PPM, 0805
R2,4,5,53,59, R66,80	RX250	7	RES, 10K, 1%, .10W, 100V, 100PPM, 0805
R67,85	RX249	2	RES, 499K, 1%, .10W, 100V, 100PPM, 0805
R82	RX248	1	RES, 5.6K, 1%, .10W, 100V, 100PPM, 0805
R58	RX247	1	RES, 21.5K, 1%, .10W, 100V, 100PPM, 0805
R69,76	RX245	2	RES, 15K, 1%, .10W, 100V, 100PPM, 0805
R68	RX244	1	RES, 47K, 1%, .10W, 100V, 100PPM, 0805
R56,64,65,73	RX243	4	RES, 1K, 1%, .10W, 100V, 100PPM, 0805
R81	RX240	1	RES, 221 OHM, 1%, .10W, 100PPM, 0805
R52	RX238	1	RES, 51.1K, 1%, .10W, 100PPM, 0805
R112,113,114	RX236	3	RES, 20K, 1%, .10W, 100PPM, 0805
R54,55,70,78	RX222	4	RES, 2K, 5%, .10W, 250PPM, 0805
R50	RX220	1	RES, 100 OHM, 5%, .10W, 250PPM, 0805
R84	RX212	1	RES, 619 OHM,1%,.25W,200V,100PPM,0805
R57	RPX06	1	POT, 100K, 10%, .25W, 15T, SIDE ADJ., CERMET, SMD
R60,74,77	RPX05	3	POT, 10K, 10%, .25W, 15T, SIDE ADJ., CERMET, SMD
R75	RPX04	1	POT, 2K, 10%, .25W, 15T, SIDE ADJ., CERMET, SMD
R79	RF169	1	RES, .27 OHM, 1W, 1%, WW
R62	RF54	1	RES, 3.32K, 1%,.125W, METAL FILM
R61	RF30	1	RES, 42.2K, .125W, 1%, MF
R83	R076	1	RES, 1.2 OHM, 1W, 5%, METAL OXIDE
Q2,3	QX01	2	TRANS, CBE PNP, SMALL SIGNAL
Q4	QX00	1	TRANS, NPN, SILICON, TYPE 2222, SOT–23
Q12	Q026	1	NPN SILICON POWER PAC TO–229
Q1	Q003	1	FET, N–CH, PWR STATIC SENSITIVE, VN10KM
P3,4,9	PA272	3	CONN, 10P, HDR, SR, ST, SHRD, (.098)
J1	PA194	1	CONN, 2P, HDR, SR, ST, (.098)
J2	PA114	1	CONN, 30P, HDR, RA, DR, UNSHRD, .100
J5	PA318A	1	HDR, 2P, UNSHRD, ST, .100 LOW–PROFILE
CR7	IR50	1	VOLTAGE REF, PROGRAMMABLE, PRECISION
U23	IR04	1	CONVERTER, DC TO DC MC34063AP1
U13	INX02A	1	IC,PROGRMBL,PERIPHL INTERFCE, 44 PLCC
U19	ILX16	1	IC, INSTRUMENTATION AMPLIFIER, AD620BR
U17,22	ILX10	2	OP AMP, LOW DRIFT, JFET, LF412D
U18	IL25	1	OP AMP, OPA27GP
XU12	P030	1	SOCKET, 24 PIN DIP, .300 CENTERS
V1	HP88A	1	VALVE, PNEUMTC,12VDC, 10 PSI, PC MOUNT
U21	HP53	1	SENSOR, ABSOLUTE PRESSURE 0 TO 15 PSI
U20	HP52	1	SENSOR, DIFERENTIAL PRSSURE 0 TO 5 PSI
CR4	DZ03	1	DIODE, ZENER, 10V, 500mW, 1N758A
CR1	DDX01	1	DIODE, MELF, 1N4148, 500mW
CR5,6	D008	2	DIODE, SCHOTTKY, 1 AMP, 40V
C2,35,36,38	CXT05	4	CAP, 10uF, 20%, 35V, 7343 TANTALUM
C42,53	CXT04	2	CAP, 1uF, 20%, 35V, 6032 TANTALUM
C48,49,52	CXT02	3	CAP, 6.8uF, 20%, 35V, 7343 TANTALUM
C51	CX61	1	CAP,470pF, 10%, 50V, X7R, CERAMIC, 0805
C41	CX59	1	CAP, .01uF, 10%, 50V, X7R, CERAMIC, 0805
C34	CX69	1	CAP, 100pF, 10%, 50V, NPO, 0805
C1,40, C43–47,50, C55–60	CX58	14	CAP,.1uF, 10%, 50V, X7R, CERAMIC 0805
C54	CT12	1	CAP, .47uF, 10%, 35V, RADIAL TANT.
1	B186	1	PCB,AGNTS PNUMTCS CNTRLR,3500, REV. D

REV.	DESCRIPTION	BY	DATE
H	PER ECN #7474	CHY	27DEC99
G	PER ECN #7211	CHY	4JUN99

REV.	DESCRIPTION	BY	DATE
F	PER ECN #7191M	SLC	17MAY99
E	PER ECN #7107	SLC	12MAR99
D	PER ECN #7106	SLC	12MAR99
C	PER ECN #6960	ALH	12DEC98
B	PER ECN #6805M	KCO	27AUG98
A	RELEASED, ECN 6618	SLC	28MAY98

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .02
.XXX = ± .010
ANGLES = ± 1°

DRAWN	SLCASTEL	28MAY98
DESIGNED	SLCASTEL	28MAY98
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
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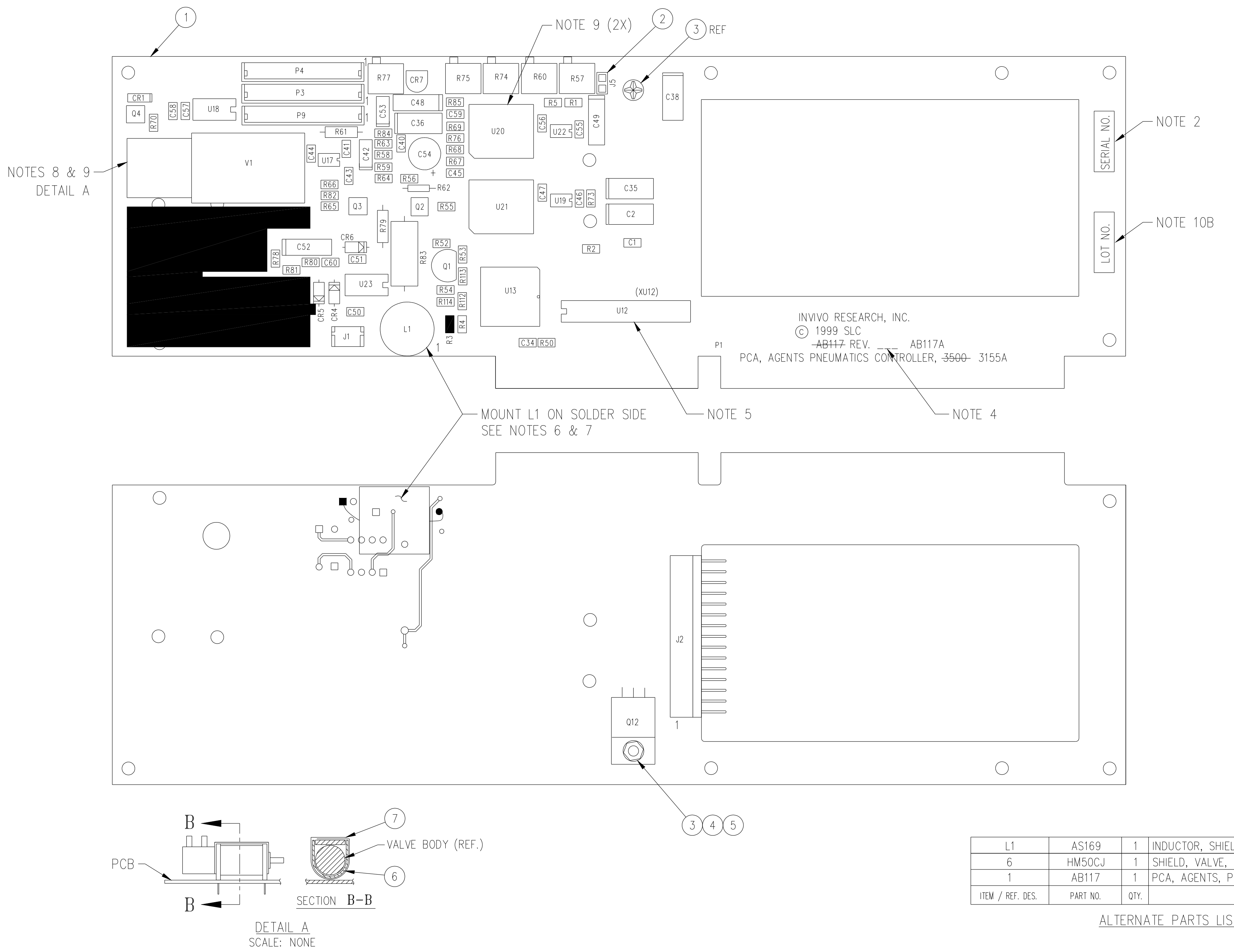
PRECISION BIOMEDICAL INSTRUMENTS
Subsidiary of Invivo Corporation
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE:
ASSEMBLY: AB117 PCA,
AGENTS PNEUMTICS CNTRLR, 3500

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
2 : 1	1 of 1	194D777	H

ECN5877

LF21 REV. A



DETAIL A
SCALE: NONE

L1	AS169	1	INDUCTOR, SHIELDED, 3155A
6	HM50CJ	1	SHIELD, VALVE, 3155A
1	AB117	1	PCA, AGENTS, PNEUMATICS CONTRLR, 3500
ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION

ALTERNATE PARTS LIST

NOTE 5

U12	AM62	REF	PROM SET, PNEUM. CONT., AGENT I.D.,3500
L1	AS169	1	INDUCTOR, SHIELDED, 3155A
R63	RX259	1	RES, 47.5K, 1%, .10W, 25PPM, 0805
R1	RX257	1	RES, 30.9K, 1%, .10W, 25PPM, 0805
R2,4,5,53,59, R66,80	RX250	7	RES, 10K, 1%, .10W, 100V, 100PPM, 0805
R67,85	RX249	2	RES, 499K, 1%, .10W, 100V, 100PPM, 0805
R82	RX248	1	RES, 5.6K, 1%, .10W, 100V, 100PPM, 0805
R58	RX247	1	RES, 21.5K, 1%, .10W, 100V, 100PPM, 0805
R69,76	RX245	2	RES, 15K, 1%, .10W, 100V, 100PPM, 0805
R68	RX244	1	RES, 47K, 1%, .10W, 100V, 100PPM, 0805
R56,64,65,73	RX243	4	RES, 1K, 1%, .10W, 100V, 100PPM, 0805
R81	RX240	1	RES, 221 OHM, 1%, .10W, 100PPM, 0805
R52	RX238	1	RES, 51.1K, 1%, .10W, 100PPM, 0805
R112,113,114	RX236	3	RES, 20K, 1%, .10W, 100PPM, 0805
R54,55,70,78	RX222	4	RES, 2K, 5%, .10W, 250PPM, 0805
R50	RX220	1	RES, 100 OHM, 5%, .10W, 250PPM, 0805
R84	RX212	1	RES, 619 OHM,1%,.25W,200V,100PPM,0805
R57	RPX06	1	POT, 100K, 10%, .25W, 15T, SIDE ADJ., CERMET, SMD
R60,74,77	RPX05	3	POT, 10K, 10%, .25W, 15T, SIDE ADJ., CERMET, SMD
R75	RPX04	1	POT, 2K, 10%, .25W, 15T, SIDE ADJ., CERMET, SMD
R79	RF169	1	RES, .27 OHM, 1W, 1%, WW
R62	RF54	1	RES, 3.32K, 1%,.125W, METAL FILM
R61	RF30	1	RES, 42.2K, .125W, 1%, MF
R83	R076	1	RES, 1.2 OHM, 1W, 5%, METAL OXIDE
Q2,3	QX01	2	TRANS, CBE PNP, SMALL SIGNAL
Q4	QX00	1	TRANS, NPN, SILICON, TYPE 2222, SOT-23
Q12	Q026	1	NPN SILICON POWER PAC TO-229
Q1	Q003	1	FET, N-CH, PWR STATIC SENSITIVE, VN10KM
P3,4,9	PA272	3	CONN, 10P, HDR, SR, ST, SHRD, (.098)
J1	PA194	1	CONN, 2P, HDR, SR, ST, (.098)
J2	PA114	1	CONN, 30P, HDR, RA, DR, UNSHRD, .100
J5	PA318A	1	HDR, 2P, UNSHRD, ST, .100 LOW-PROFILE
CR7	IR50	1	VOLTAGE REF, PROGRAMMABLE, PRECISION
U23	IR04	1	CONVERTER, DC TO DC MC34063AP1
U13	INX02A	1	IC,PROGRMBL,PERIPHL INTERFCE, 44 PLCC
U19	ILX16	1	IC, INSTRUMENTATION AMPLIFIER, AD620BR
U17,22	ILX10	2	OP AMP, LOW DRIFT, JFET, LF412D
U18	IL25	1	OP AMP, OPA27GP
XU12	P030	1	SOCKET, 24 PIN DIP, .300 CENTERS
V1	HP88A	1	VALVE, PNEUMTC,12VDC, 10 PSI, PC MOUNT
U21	HP53	1	SENSOR, ABSOLUTE PRESSURE 0 TO 15 PSI
U20	HP52	1	SENSOR, DIFERENTIAL PRSSURE 0 TO 5 PSI
CR4	DZ03	1	DIODE, ZENER, 10V, 500mW, 1N758A
CR1	DDX01	1	DIODE, MELF, 1N4148, 500mW
CR5,6	D008	2	DIODE, SCHOTTKY, 1 AMP, 40V
C2,35,36,38	CXT05	4	CAP, 10uF, 20%, 35V, 7343 TANTALUM
C42,53	CXT04	2	CAP, 1uF, 20%, 35V, 6032 TANTALUM
C48,49,52	CXT02	3	CAP, 6.8uF, 20%, 35V, 7343 TANTALUM
C51	CX61	1	CAP,470pF, 10%, 50V, X7R, CERAMIC, 0805
C41	CX59	1	CAP, .01uF, 10%, 50V, X7R, CERAMIC, 0805
C34	CX69	1	CAP,100pF, 10%, 50V, NPO, 0805
C1,40, C43-47,50, C55-60	CX58	14	CAP,.1uF, 10%, 50V, X7R, CERAMIC 0805
C54	CT12	1	CAP, .47uF, 10%, 35V, RADIAL TANT.
7	M088A	REF	TAPE, KAPTON, .004 THK., 1/2 INCH WD.
6	HM50CJ	1	SHIELD, VALVE, 3155A
5	NW44N	1	WASHER, LOCK, SPLIT, #4
4	N007	1	NUT, HEX, #4-40
3	NS04	1	SCR, #4-40 X 1/4 LG
2	PA66	1	SHUNT, 2 POSITION, .10 CENTERS
1	B186	1	PCB,AGNTS PNUMTCS CNTRLR,3500, REV. D
ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION

NOTES:

1. WORKMANSHIP TO CONFORM TO IPC CLASS II REQUIREMENTS.
2. BOARD REQUIRES SERIALIZED LABELING WITH THE FOLLOWING INFORMATION:
   UNIQUE SERIAL NO., ASSEMBLY P/N & CURRENT REV. LEVEL.
   PLACE SERIAL NUMBER LABEL IN THIS AREA-ORIENT AS SHOWN.
3. COMPONENTS SHOWN AS SOLID, ARE NOT TO BE INSTALLED.
4. USING INDELIBLE INK IN CONTRASTING COLOR, PLACE CURRENT ASSEMBLY REV. IN SPACE PROVIDED. SIGNIFY BOARD ASSY BY STRIKING OUT "AB117" AND "3500", THEN WRITE IN "AB117A" AND "3155A" AS INDICATED.
5. U12 (AM62) TO BE INSTALLED AT NEXT ASSY (AS159A).
6. SOLDER LEADS OF P/N AS169 INDUCTOR ASSY (L1) TO PADS AS SHOWN.
7. MOUNT L1 INDUCTOR ASSY SECURELY TO PCB USING P/N M008A CLEAR RTV SEALANT. ENSURE L1 INDUCTOR ASSY IS POSITIONED AS SHOWN, NOT PROTRUDING PAST EDGE OF BOARD.
8. SECURE P/N HM50CJ SHIELD (ITEM 6) TO P/N HP88A (V1) VALVE BODY USING P/N M088A KAPTON TAPE (ITEM 7), ENSURING COMPLETE COVERAGE OF SHIELD AS SHOWN IN DETAIL A.
9. HAND SOLDER HP88A (V1), HP52 (U20) & HP53 (U21) USING "NO CLEAN" SOLDER. DO NOT IMMERSE OR OTHERWISE CONTAMINATE SENSOR. DO NOT CLEAN IN VAPOR DEGREASER.
10. IF CONVERTING FROM AB117: SEE ALTERNATE PARTS LIST
    - A. REMOVE P/N HP88A VALVE, (REF, DES. V1), REMOUNT PER NOTES 8 AND 9.
    - B. PLACE LOT NO. LABEL IN THIS AREA – ORIENT AS SHOWN. LABEL HAS THE FOLLOWING INFORMATION:
      ASSEMBLY P/N (AB117A), REV. LEVEL AND LOT NUMBER. DO NOT REMOVE AB117 SERIAL LABEL.

B	PER ECN #8624	CHY	11FEB02
A	RELEASED, ECN #7512	KCO	6JAN00
REV.	DESCRIPTION	BY	DATE

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .02
.XXX = ± .010
ANGLES = ± 1°

DRAWN	KCO	6JAN00
DESIGNED	RLM	21DEC99
CHECKED		
APPROVED		

INCHES

THIRD ANGLE PROJECTION

DO NOT SCALE THIS DRAWING !!!

INVIVO
RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE:
ASSEMBLY: AB117A PCA,
AGENTS PNEUMTICS CNTRLR, 3155A

CAD SCALE: 2 : 1
SHEET: 1 of 1
DWG. NO.: 194D863
REV.: B

ECN8242

LF21 REV. B

3155MVS-1-1 LANGUAGE OPTION 1, ENGLISH

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
18	L2060	2	LABEL, CAUTION, 3155MVS
97	L2054	1	LABEL, BATTERY REMOVAL
106	9545	1	MANUAL, OPERATORS, 3155MVS/3155A
134	L2103	1	OVERLAY, GRAPHICS, 3500
136	L2064	1	LABEL, BASEPLATE, 3155MVS, ENG

3155MVS-1-2 LANGUAGE OPTION 2, GERMAN

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
18	L2060G	2	LABEL, CAUTION, 3155MVS, GERMAN
97	L2054G	1	LABEL, BATTERY REMOVAL, GERMAN
106	9545G	1	MANUAL, OPERATORS, 3155MVS, GER.
134	L2103G	1	OVERLAY, GRAPHICS, 3500, GERMAN
135	L2044G	1	LAB, WARNING, BASEPLATE, 3500, GERMAN
136	L2064G	1	LABEL, BASEPLATE, 3155MVS, GER

3155MVS-1-3 LANGUAGE OPTION 3, FRENCH

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
18	L2060F	2	LABEL, CAUTION, 3155MVS, FRENCH
97	L2054F	1	LABEL, BATTERY REMOVAL, FRENCH
106	9545F	1	MANUAL, OPERATORS, 3155MVS, FRN.
134	L2103F	1	OVERLAY, GRAPHICS, 3500, FRENCH
136	L2064F	1	LAB, BASEPLATE, 33155MVS, FRN.

3155MVS-1-4 LANGUAGE OPTION 4, SPANISH

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
18	L2060S	2	LABEL, CAUTION, 3155MVS, SPANISH
97	L2054S	1	LABEL, BATTERY REMOVAL, SPANISH
106	9545S	1	MANUAL, OPERATORS, 3155MVS, SPN.
134	L2103S	1	OVERLAY, GRAPHICS, 3500, SPN.
135	L2044S	1	LAB, WARNING, BASEPLATE, 3500, SPN.
136	L2064S	1	LAB, BASEPLATE, 315MVS, SPN.

3155MVS-1-5 LANGUAGE OPTION 5, ITALIAN

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
18	L2060I	2	LABEL, CAUTION, 3155MVS, ITALIAN
97	L2054I	1	LABEL, BATTERY REMOVAL, ITALIAN
106	9545I	1	MANUAL, OPERATORS, 3155MVS, ITALIAN
134	L2103I	1	OVERLAY, GRAPHICS, 3500, ITL.
135	L2044I	1	LAB, WARNING, BASEPLATE, 3500, ITL.
136	L2064I	1	LAB, BASEPLATE, 315MVS, ITL.

3155MVS-1-6 LANGUAGE OPTION 6, PORTUGUESE

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
18	L2060P	2	LABEL, CAUTION, 3155MVS, PORTUGUESE
97	L2054P	1	LABEL, BATTERY REMOVAL, PORTUGUESE
106	9545P	1	MANUAL, OPERATORS, 3155MVS, PRT.
134	L2103P	1	OVERLAY, GRAPHICS, 3500, PRT.
135	L2044P	1	LAB, WARNING, BASEPLATE, 3500, PRT.
136	L2064P	1	LAB, BASEPLATE, 315MVS, PRT.

3155MVS-2-1 VOLTAGE OPTION 1, 110V

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
118	AS153	1	POWER ADAPTER, 3150
121	AC348A	1	CAB., POWER ADAPTER, 3150, 5 FT.
125	HH08	2	HOOK, PLASTIC, WHITE, RECT., SUPER
137	AS18	1	ASSY., LINE CORD, 110V, TESTED
138	FU13	2	FUSE, 3/4 AMP, SLO-BLO, 313.750

3155MVS-2-2 VOLTAGE OPTION 2, 220V EURO./GERMAN

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
118	AS153	1	POWER ADAPTER, 3150
121	AC348A	1	CAB., POWER ADAPTER, 3150, 5 FT.
125	HH08	2	HOOK, PLASTIC, WHITE, RECT., SUPER
137	AS18G	1	ASSY., LINE CORD, 10A/220-230V, EURO.
138	FU25	2	FUSE, 4/10 AMP, 250V, SLO-BLO, 3AG

3155MVS-2-3 VOLTAGE OPTION 3, 220V UNIVERSAL

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
118	AS153	1	POWER ADAPTER, 3150
121	AC348A	1	CAB., POWER ADAPTER, 3150, 5 FT.
125	HH08	2	HOOK, PLASTIC, WHITE, RECT., SUPER
137	AS18A	1	ASSY., LINE CORD, 220V, TESTED
138	FU25	2	FUSE, 4/10 AMP, 250V, SLO-BLO, 3AG

3155MVS-2-4 VOLTAGE OPTION 4, 100V

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
118	AS153J	1	POWER ADAPTER, 3150
121	AC348A	1	CAB., POWER ADAPTER, 3150, 5 FT.
125	HH08	2	HOOK, PLASTIC, WHITE, RECT., SUPER
137	AS18A	1	ASSY., LINE CORD, 220V, TESTED
138	FU13	2	FUSE, 3/4 AMP, SLO-BLO, 313.750

3155MVS-3-1 RECORDER OPTION 1, DUAL CHANNEL RECORDER

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
131	HT16	1	RECORDER, THERMAL, GEN. SCANG. AR42
132	MP05	1	PAPER, THERM. ARRAY, BLACK, 50mm
133	L2036	1	LABEL, PRINTER DOOR (GEN. SCANG.)

3155MVS-4-1 COMM. OPTION 1, HARDWIRE

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
11	AC329A	-1	CABLE, DATA, TRANSCEIVER, TELEMETRY, 16"
12	AC330A	-1	CABLE, POWER, TRANSCEIVER, TELEMETRY, 16"
20	AC355	-1	CABLE, LOW VOLTAGE DC POWER, 3155
22	AC331	-1	CABLE ANTENNA, TELEMETRY, 8 INCH
25	AM46	REF	PCMCIA CARD, FLASH MEM. OP. SYS., 3500
25	AM69	-REF	PCMCIA CARD, FLASH MEM. OP. SYS., 3155A/MVS
83	NW33	-1	WASHER, NYLON, .120 X .250 X .010
88	H058A	1	PLUG, HOLE, .25 DIA, WHITE, NYLON
89	N002	-1	NUT, HEX, #4-40, ZN
111	AB182B	-1	ASSY, 2410 RADIO PCA
112	HE61	-1	ANTENNA, 2.4 GHZ, RIGHT ANGLE
126	HI66	-1	INSULATOR, 2410 RADIO PCA
144	AC355A	1	CABLE, LOW VOLTAGE DC POWER, 3150

3155MVS-4-2 COMM. OPTION 2, TELEMETRY, SIEMENS

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
25	AM46	REF	PCMCIA CARD, FLASH MEM. OP. SYS., 3500
25	AM69	-REF	PCMCIA CARD, FLASH MEM. OP. SYS., 3155A/MVS
83	NW33	-1	WASHER, NYLON, .120 X .250 X .010
111	AB182B	-1	ASSY, 2410 RADIO PCA
126	HI66	-1	INSULATOR, 2410 RADIO PCA
146	HE60	1	TRANSCEIVER, 2.4 GHz, 115200 BPS
147	N002	1	NUT, HEX, #4-40, ZN

REF. ASSEMBLY INSTRUCTION AI058

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
150			
149			
148	NW05	6	WASHER, FLAT #6 x .312 x .032
147	SEE CHART	—	NUT, HEX, #4-40, ZN
146	SEE CHART	—	TRANSCEIVER, 2.4 GHz, 115200 BPS
145	H139	1	CAP, PROTECTIVE, KEYBOARD CONNECTOR
144	SEE CHART	—	CABLE, LOW VOLTAGE DC POWER, 3150
143	FE05	4	FOOT, CLR, POLYURTHN. .312D x .085
142	M007	A/R	ADHESIVE, LOCTITE 362, RED, THREADLOCK
141	L185	1	LABEL, DATE OF MANUFACTURE
140	NW08	4	LOCKWASHER, INT. TOOTH, #8, SS
139	NW12	10	WASHER, #4 X .125 X .312 X .030
138	SEE CHART	—	FUSE
137	SEE CHART	—	ASSY., LINE CORD
136	SEE CHART	—	LAB, BASEPLATE, 3155MVS
135	SEE CHART	—	LAB, WARNING, BASEPLATE, 3500
134	SEE CHART	—	OVERLAY/MEMBRANE KEYPAD, 3500
133	SEE CHART	—	LABEL, PRINTER DOOR
132	SEE CHART	—	PAPER, THERM. ARRAY, BLACK, 50mm
131	SEE CHART	—	RECORDER, THERMAL
130	M092	3.25	TAPE, SHIELDING, COPPER 1" WIDE
129	NS35	4	SCR., #4-40 x 3/4 LG., PHMS-XR, ZN
128	H079	1	LATCH BLOCK, "D" CONN, .090 PNL.
127	H112	56.75	GASKET, EMI, CHO-FOAM, .276W X .079H
126	HE66	1	INSULATOR, 2410 RADIO PCA
125	SEE CHART	—	HOOK, PLASTIC, RECT., WHITE, SUPER
124	HM50BR	1	COVER, CONNECTOR, BASEPLATE, 3155MVS
123	HM50BD	1	COVER, CONNECTOR, FR. PNL, 3155MVS
122	M088A	18.38	TAPE, KAPTON, .004 THK., 1/2" WD, ROLL
121	SEE CHART	—	CAB., POWER ADAPTER, 3150, 5 FT.
120	FE02	2	FEET, GRAY
119	H125	1	SCREEN, EMI/RF, 80 OPI, 8.87x6.73
118	SEE CHART	—	POWER ADAPTER, 3150
117	N003	1	NUT, HEX, #8-32, ZN
116	NW02	8	WASHER, NYLON, #6 X .312 X .032
115	S015	1	SWITCH, ROCKER, 1803-1121
114	AC266	1	CAB. KEYBOARD, OMNI-TRAK, 3500
113	HE70	1	DISPLAY, LCD, COLOR, 10.4" DIAG. ACTIVE, 3V
112	HE61	1	ANTENNA, 2.4 GHz, RIGHT ANGLE
111	AB182B	1	ASSY, 2410 RADIO PCA
110	M149	1	INSERT, BATTERIES
109	M148	1	BOX, ACC., 15.75 X 12.5 X 2.75
108	M145A	1	FILLER, INSERT, FOAM, 3500
107	M145	1	BOX, SHIPPING, 3500
106	SEE CHART	—	MANUAL, OPERATOR'S, 3155MVS/3155A
105	H120	44.50	GASKET, EMI, .157W X .039H, PSA
104	M008A	REF	ADHESIVE/SEALANT, RTV, CLEAR, 732
103	M020	REF	ADHESIVE, LOCTITE, TOUGHENED, 411
102	L2102	1	SWITCHPAD, MEMEBRANE, KEYPAD, 3500
101	NS81N	1	SCR, #4-40 X 5/16 LG, FIHMS-XR, NM
100	PA366	1	GASKET, EMI/RFI, 15 PIN CONN.
99	M004	9.00	TAPE, ACRYLIC, DS, .010 THK X .50 WD.
98	HM50AJ	1	INSULATOR, MOTHERBOARD PCA, 3500
97	SEE CHART	—	LABEL, BATTERY REMOVAL
96	HF05	1	FINGER GUARD, 40mm FAN
95	HM50AE	1	COVER, RECORDER, 3500
94	FE06	1	BUMPER, PROTECTIVE, BLK, .50W X .23H
93	HI40	1	INSULATOR, 2.70 X 3.25 - 3500
92	WT05	1.00	HEAT SHRINK 3/16" I.D. BLACK
91	S035	1	ENCODER, OPTICAL, 24 POS., PB, MINI
90	N006	2	NUT, HEX, #2-56, ZN
89	N002	19	NUT, HEX, #4-40, ZN
88	SEE CHART	—	PLUG, HOLE, .25 DIA, WHITE, NYLON
87	L2086	1	LABEL, FRONT PANEL, 3155MVS
86	NW09	11	LOKWSHR, IT,SS, #4 X .200 X .020
85	NW32	6	FLTW, #8, REG. SERIES - ZN
84	N001	2	NUT, HEX, #6-32, ZN
83	NW33	2	WASHER, NYLON, .120 X .250 X .010
82	NW01	6	LOKWSHR, IT,SS, #6 X .285 X .040
81	NS06	2	SCR, #6-32 X 1/2 LG. PHMS-XR, ZN
80	NS95	1	SCR, SET, #4-40 X 3/16, CP. PT., SS
79	NS93	4	SCR, CAPTIVE, #8-32 X 1/2, SHCS
78	NS98	7	SCR, #4-40 X 1/4 LG. FHMS-XR, ZN
77	NS50	5	SCR, #4-40 X 1/4 LG. PHMS-NY

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
76	NS05	4	SCR, #8-32 X 5/16 LG. PHMS-XR, ZN
75	L137A	1	LABEL, C.E. COMPLIANCE, MDD (SEMKO)
74	NS10	2	SCR, #6-32 X 3/8 LG. PHMS-XR, ZN
73	NS04	42	SCR, #4-40 X 1/4 LG. PHMS-XR, ZN
72	NS02	26	SCR, #6-32 X 1/4 LG. PHMS-XR, ZN
71	L1016C	1	LABEL, MODEL/SERIAL, GENERIC
70	L014	2	LABEL "ACCEPTED" W02
69			
68	H086	2	RING, RETAINING, 3500
67	H122	30.50	GASKET, SHIELDING, EMI, .118 X .118
66	H088	1	LATCH, SPRING, SLOTTED HEAD
65	H006	2	SPEAKER CLIP 48SC004
64	NS26	6	SCR, #4-40 X 3/8 LG. PHMS-XR, ZN
63	HS77	4	STANDOFF, HEX, M/F, 4-40 X .875
62	HS49	2	STANDOFF, HEX, M/F, 4-40 X .500
61	HS55	2	STANDOFF, HEX, M/F, 4-40 X .500 NY
60	HS47	4	STANDOFF, HEX, M/F, 4-40 X .250
59	HS48	2	STANDOFF, HEX, M/F, 4-40 X .375
58	H058A	1	PLUG, HOLE, .25 DIA, WHITE, NYLON
57	HM50W	1	DOOR, BATTERY, OMNI-TRAK 3500
56	HM50T	1	COVER, 3500
55	HM50R	1	END CAP, PAINTED, 3500
54	HM50AD	1	SPRING, DOOR, 3500
53	HM50X	1	PIN, HINGE, 3500
52	HM50J3A	1	RET. BRKT, P.C. BD, R.S. BTTM, 3155MVS
51	HM50J2A	1	RET. BRKT, P.C. BD, L.S. BTTM, 3155MVS
50	HM50J	1	BRKT., SUPPORT, LEFT SIDE, 3500
49	HM50BL	1	BRKT., SUPPORT, RT. SIDE, 3500
48	HM50EA	1	CAGE, BATTERY, 3500 SERIES
47	HM50D	1	SELECTOR KNOB (FINGER TURN), 3500
46	HM50BK	1	BASEPLATE, 3500 (Fi02)
45	HM50B1	1	COND. PAINT, DISPLAY INSERT MOLDING, 3500
44	HM50AP	1	COVER, PCMCIA, OMEGA 3500
43	HM50AN	1	BRKT., STIFFENER, SUPPORT, 3500
42	HM50AM	1	COVER PLATE, CONNECTOR, 3500
41	HM50AH	3	CLAMP, BEZEL BTTM, OMNI-TRAK 3500
40	HM50AG	6	CLAMP, BEZEL SIDE, OMNI-TRAK 3500
39	HM50BJ	1	SHIELD, INNER, 3155
38	H137	3	SPRING, COMPRESSION, .24 O.D. X .44 LG., SS
37	HM50A2	1	COND. PAINT, FRONT PANEL MOLDING, 3500
36	HH09B	1	VINYL HANDLE & INSERT, FROM HH09
35	HE16	1	BINDING POST, METAL
34	HB10	3	BATTERY, 12V, RECHARGABLE
33	FU31	1	FUSE, 5 AMP, 5 X 20mm, SLO-BLO
32	FU30	1	FUSEHOLDER, 5 X 20mm, PANEL MOUNT
31	FE08	2	FEET, TIP-UP, PLASTIC
30	FE07	2	FOOT, CASE, .82 DIA. X .59 H
29	AS141	1	FAN, MILLENNIA 3500
28	AS137	1	ASSY, SPEAKER, OMNI-TRAK 3500
27	AM45	1	PROM SET, MULTIFUNCTION I/O, 3500
26	AM40	1	PROM SET, KEYBOARD INTERFACE, 3500
25	AM69	REF	PCMCIA CARD, FLASH MEM. OP. SYS., 3155A/MVS
24	AM44C	1	PROM SET, VIDEO BIOS, ACTIVE, LG SEMICON, 3500
23	AC252	1	CAB, SHARP ACTIVE LCD DISPLAY, 3500
22	AC331	1	CABLE, ANTENNA, TELEMETRY, 8"
21	AC269	1	CAB, MOTHER BD. PWR, OMNI 3500
20	AC355	1	CAB, LOW VOLTAGE DC POWER, 3155
19	AC261	1	CABLE, XENTEK, INVRTR/VGA, 3500
18	SEE CHART	—	LABEL, CAUTION, 3155MVS
17	AC257	1	CABLE, RIBBON, 24P, .025 CTRS, 8"
16	H134	1	SCREEN, EMI/RFI, 40mm FAN
15	HM50CF	1	COVER PLATE, FAN, 3500
14	AC113	1	CAB, PWR SUPPLY/AD BD., 3500
13	AC270	1	CAB, FRONT SWITCH PWR, 3500
12	AC330A	1	CABLE, POWER, TRANSCEIVER, TELEMETRY, 16"
11	AC329A	1	CABLE, DATA, TRANSCEIVER, TELEMETRY, 16"
10	AB97	1	PCA, SHARP 321 CBL. ADPTR., (SHARP ONLY)
9	AB70	1	PCA, MULTI-FUNCTION I/O, 3500
8	AB09A	1	PCA, INVERTER, LCD, LS380, XENTEK
7	AB68	1	PCA, KEYBD. INTRFCE, OMNI-TRAK, 3500
6	AB88	1	PCA, PC/AT MOTHERBD, w/MPRCSR
5	AB77	1	PCA, PCMCIA/VGA DISPLAY, 3500
4	AB72A	1	PCA, POWER INTRCNCT, OMEGA 3500
3	AB69A	1	PCA, PWR SWITCHER/BATT CHARGR, 3500
2	AB69	1	PCA, POWER SUPPLY, 3500
1	AB65A	1	ASSY, A/D PCA, 3500

REV.	DESCRIPTION	BY	DATE	REV.	DESCRIPTION	BY	DATE	REV.	DESCRIPTION	BY	DATE
				R	PER ECN #8166	CHY	25JAN01	J	PER ECN #7447	CHY	18NOV99
Y	PER ECN #8796	CHY	1MAY02	P	PER ECN #8082	CHY	8DEC00	H	PER ECN #7344	JWT	4OCT99
W	PER ECN #8496	CHY	13DEC01	N	PER ECN #8017	CHY	12OCT00	G	PER ECN #7252	CHY	19JUL99
V	PER ECN #8394	SR	31AUG01	M	PER ECN #7615	CHY	15AUG00	F	PER ECN #6811	CHY	9NOV98
U	PER ECN #8382	KCO	9JUL01	L	PER ECN #7663	CHY	22MAY00	E	PER ECN #6769	SR	11SEP98
T	PER ECN #8114	SR	18MAY01	K	PER ECN #7508	JWT	6JAN00	D	PER ECN #6704	CHY	6AUG98

REV.	DESCRIPTION	BY	DATE
C	PER ECN #6462	KCO	20MAY98
B	PER ECN #6519	SR	APR98
A	RELEASED, ECN #6210	SR	DEC97

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UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± ——
.XXX = ± ——
ANGLES = ± ——

DRAWN	CHY	10DEC97
DESIGNED	RM	10DEC97
CHECKED		
APPROVED		

INCHES

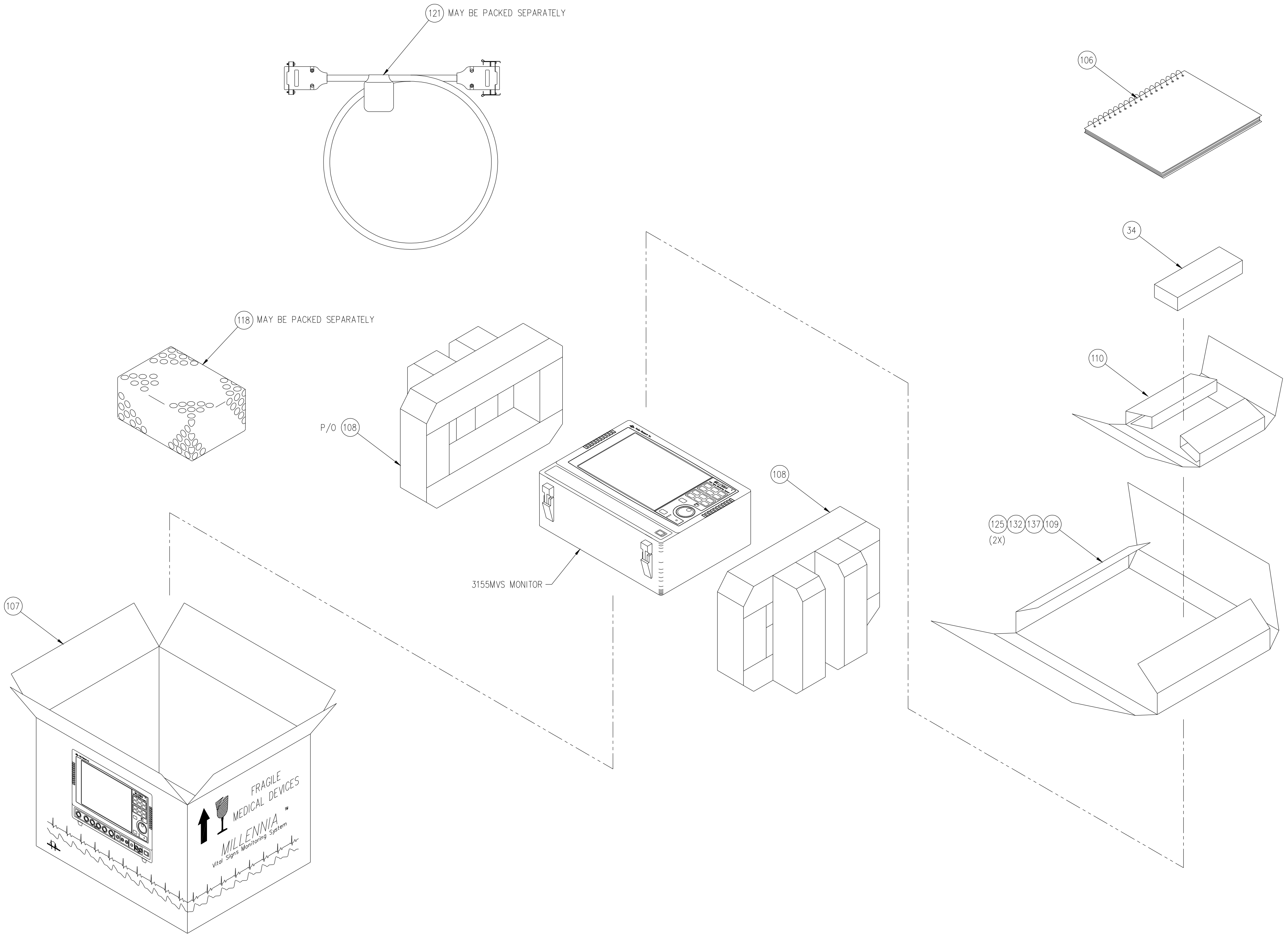
THIRD ANGLE PROJECTION

DO NOT SCALE THIS DRAWING !!!

INVIVO
RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
ASSY: 3155MVS
MILLENNIA REMOTE DISPLAY CONTROLLER

CAD SCALE	SHEET	DWG. NO.	REV.
.75 : 1	1 of 10	197C540	Y


121 MAY BE PACKED SEPARATELY
106
34
118 MAY BE PACKED SEPARATELY
110
P/O 108
108
3155MVS MONITOR
125 132 137 109
(2X)
107
FRAGILE
MEDICAL DEVICES
MILLENNIA ™
Vital Signs Monitoring System

SCALE: .25 : 1

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE .XX = ± —— .XXX = ± —— ANGLES = ± ——	DRAWN	CHY	10DEC97
	DESIGNED	RM	10DEC97
	CHECKED		
	APPROVED		

←INCHES→

THIRD ANGLE PROJECTION

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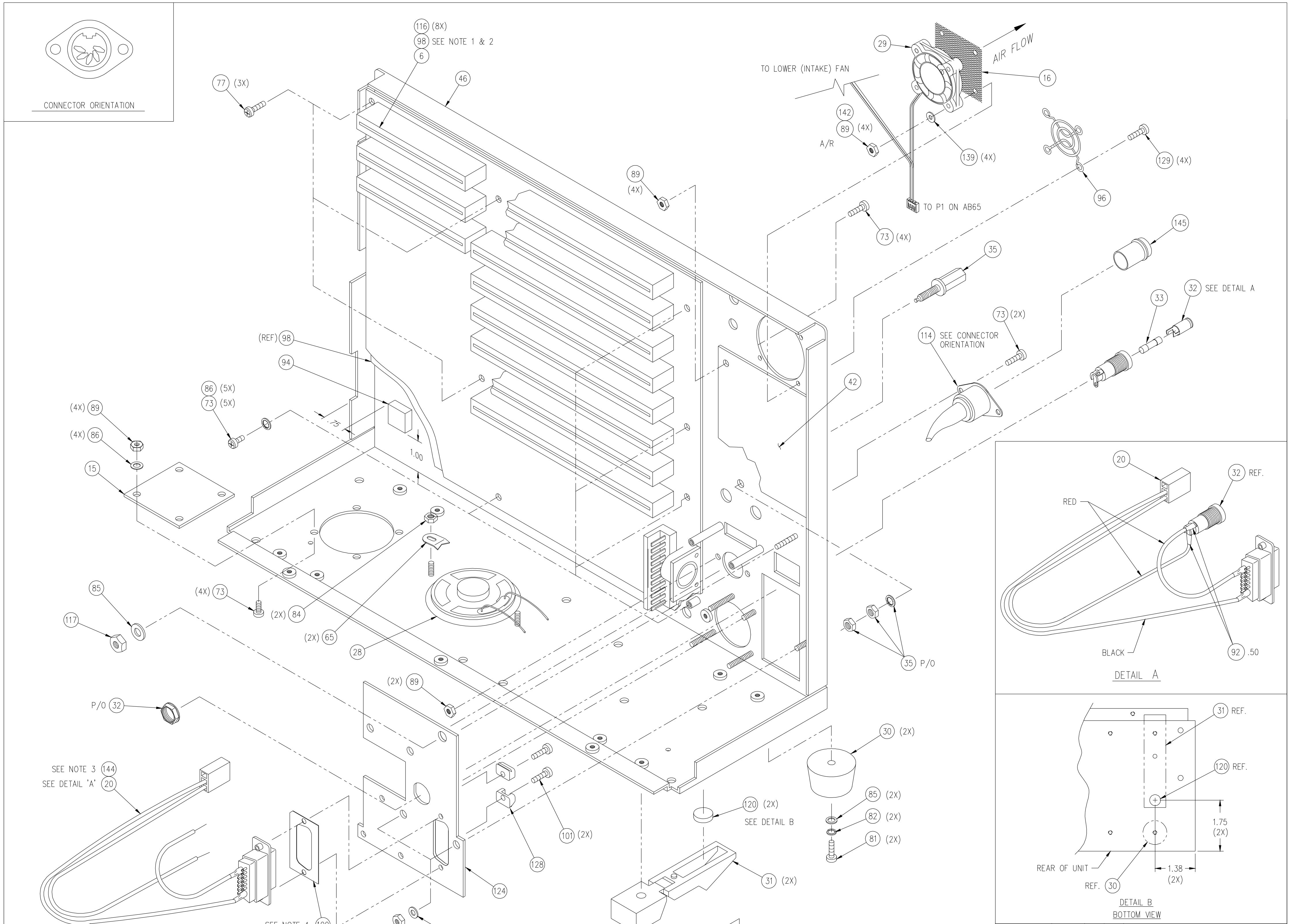
TITLE
ASSY: 3155MVS
MILLENNIA REMOTE DISPLAY CONTROLLER

CAD SCALE	SHEET	DWG. NO.	REV.
.75 : 1	10 of 10	197C540	Y


CONNECTOR ORIENTATION
116 (8X)
98 SEE NOTE 1 & 2
6
46
77 (3X)
29
AIR FLOW
16
TO LOWER (INTAKE) FAN
142
89 (4X)
A/R
139 (4X)
129 (4X)
96
TO P1 ON AB65
89 (4X)
73 (4X)
145
35
32 SEE DETAIL A
33
73 (2X)
114 SEE CONNECTOR ORIENTATION
42
(REF) 98
94
86 (5X)
73 (5X)
.75
1.00
(4X) 89
(4X) 86
15
85
117
(4X) 73
(2X) 84
(2X) 65
28
35 P/O
(2X) 89
P/O 32
30 (2X)
SEE NOTE 3 144
SEE DETAIL 'A' 20
101 (2X)
128
120 (2X)
SEE DETAIL B
85 (2X)
82 (2X)
81 (2X)
31 (2X)
124
SEE NOTE 4 100
86 (2X)
89 (2X)
74 (2X)
20
32 REF.
RED
BLACK
92 .50
DETAIL A
31 REF.
120 REF.
1.75 (2X)
1.38 (2X)
REAR OF UNIT
REF. 30
DETAIL B
BOTTOM VIEW

SCALE: 1 : 1

NOTES:

1. USING P/N M020 LOCTITE (ITEM 103), GLUE A P/N NW02 NYLON WASHER (ITEM 116) CENTERED OVER EACH HOLE IN P/N HM50AJ INSULATOR (ITEM 98). GLUE THE WASHERS TO THE SIDE OF THE INSULATOR THAT IS AGAINST THE MOTHERBOARD WHEN INSTALLED IN THE UNIT.
2. INSTALL P/N HM50AJ INSULATOR (ITEM 98) ON BACK SIDE OF BOARD.
3. INSTALL P/N AC355A CABLE (ITEM 144) FOR 3155MVS-4-1 HARDWIRE OPTION.
4. CHAMFER CORNER .12 X 45° AT LOCATION SHOWN.

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE			
.XX = ±	DRAWN	CHY	10DEC97
.XXX = ±	DESIGNED	RM	10DEC97
ANGLES = ±	CHECKED		
	APPROVED		

INCHES
THIRD ANGLE PROJECTION
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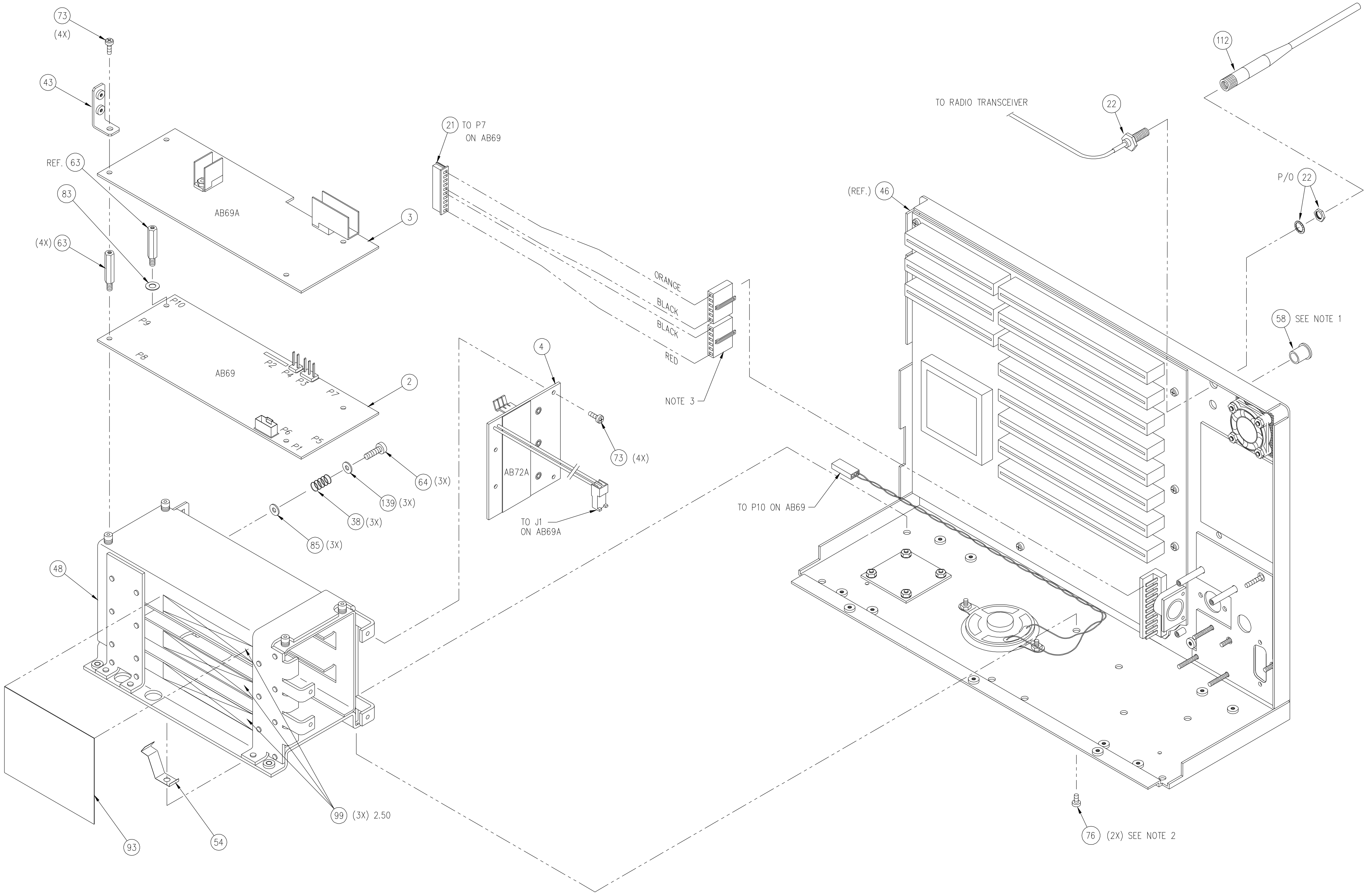
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
ASSY: 3155MVS
MILLENNIA REMOTE DISPLAY CONTROLLER

CAD SCALE	SHEET	DWG. NO.	REV.
.75 : 1	2 of 10	197C540	Y


73
(4X)
43
REF. 63
83
(4X) 63
AB69A
3
21 TO P7
ON AB69
P10
P9
P8
AB69
P2
P4
P3
P7
P6
P5
P1
2
64 (3X)
139 (3X)
38 (3X)
85 (3X)
48
93
54
99 (3X) 2.50
4
AB72A
73 (4X)
TO J1
ON AB69A
ORANGE
BLACK
BLACK
RED
NOTE 3
TO RADIO TRANSCEIVER
22
112
(REF.) 46
P/O 22
58 SEE NOTE 1
TO P10 ON AB69
76 (2X) SEE NOTE 2

NOTES:

1. INSERT P/N H058A HOLE PLUG (ITEM 58) IN POSITION MARKED "GAS ZERO".
2. INSTALL ONLY THE TWO (2) REAR SCREWS IN THE BATTERY CAGE AT THIS LEVEL.
3. AFTER INSTALLING P/N AC269 CABLE (ITEM 21), APPLY P/N M008A RTV (ITEM 104) TO THE CABLE CONNECTORS AND HEADER ON P/N AB88 MOTHERBOARD (ITEM 6). ENSURE RTV CONTACTS BOTH THE CABLE CONNECTOR AND THE HEADER.

UNLESS OTHERWISE SPECIFIED
TOLERANCES ARE
.XX = ±
.XXX = ±
ANGLES = ±

DRAWN	CHY	10DEC97
DESIGNED	RM	10DEC97
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
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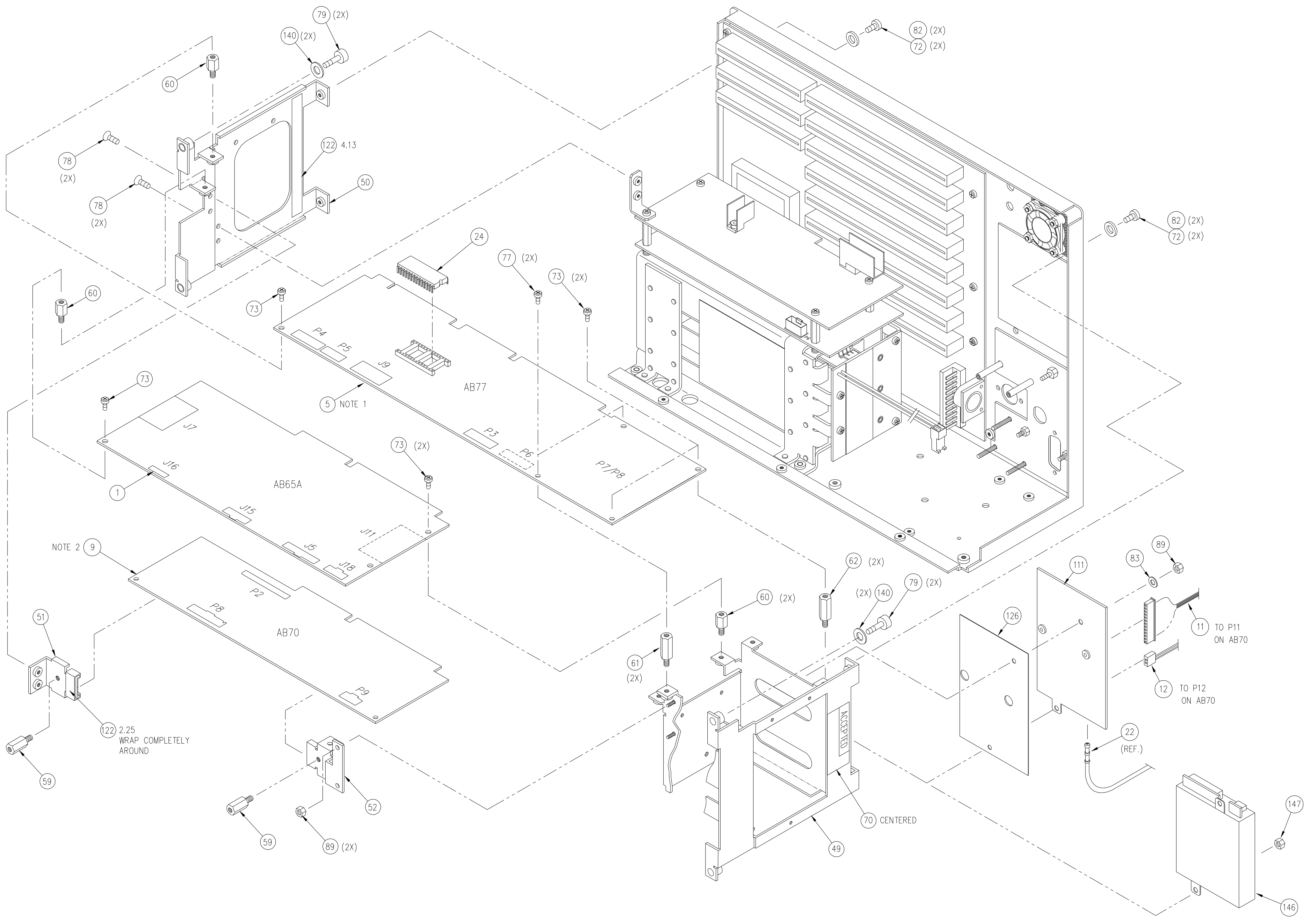
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
ASSY: 3155MVS
MILLENNIA REMOTE DISPLAY CONTROLLER

CAD SCALE	SHEET	DWG. NO.	REV.
.75 : 1	3 of 10	197C540	Y



79 (2X)
140 (2X)
60
78 (2X)
78 (2X)
122 4.13
50
82 (2X)
72 (2X)
82 (2X)
72 (2X)
24
77 (2X)
73 (2X)
73
60
P4
P5
J9
AB77
5 NOTE 1
P3
P6
P7/P8
73
J7
J16
AB65A
1
73 (2X)
J15
J5
J11
J18
NOTE 2 9
P2
P8
AB70
P9
51
122 2.25
WRAP COMPLETELY
AROUND
59
52
59
89 (2X)
62 (2X)
60 (2X)
61 (2X)
(2X) 140
79 (2X)
ACCEPTED
70 CENTERED
49
111
83
89
126
11 TO P11
ON AB70
12 TO P12
ON AB70
22 (REF.)
147
146

NOTES:

1. ON P/N AB77 (ITEM 5) FOR 3 VOLT DISPLAY, JUMPER PINS 1 AND 2 ON JMP14 AND JMP15.
   FOR 5 VOLT DISPLAY, JUMPER PINS 2 AND 3 ON JMP14 AND JMP15.
2. ON P/N AB70 (ITEM 9), FOR TELEMETRY UNITS, REMOVE P/N PA318B SHUNT FROM PINS 2 & 3 AND INSTALL ON P10, PINS 1 & 2. REMOVE P/N PA318B FROM JMP8 AND JMP9.
   FOR 3156-1 OR 3155MVS-4-1 HARDWIRE OPTION, INSTALL P/N PA318B ON P10, PINS 2 & 3, JMP6, PINS 1 & 2 AND JMP9, PINS 1 & 2.

COMM. OPTION 2, TELEMETRY, SIEMENS

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE			
.XX = ± ——	DRAWN	CHY	10DEC97
.XXX = ± ——	DESIGNED	RM	10DEC97
ANGLES = ± ——	CHECKED		
	APPROVED		

INCHES
THIRD ANGLE PROJECTION
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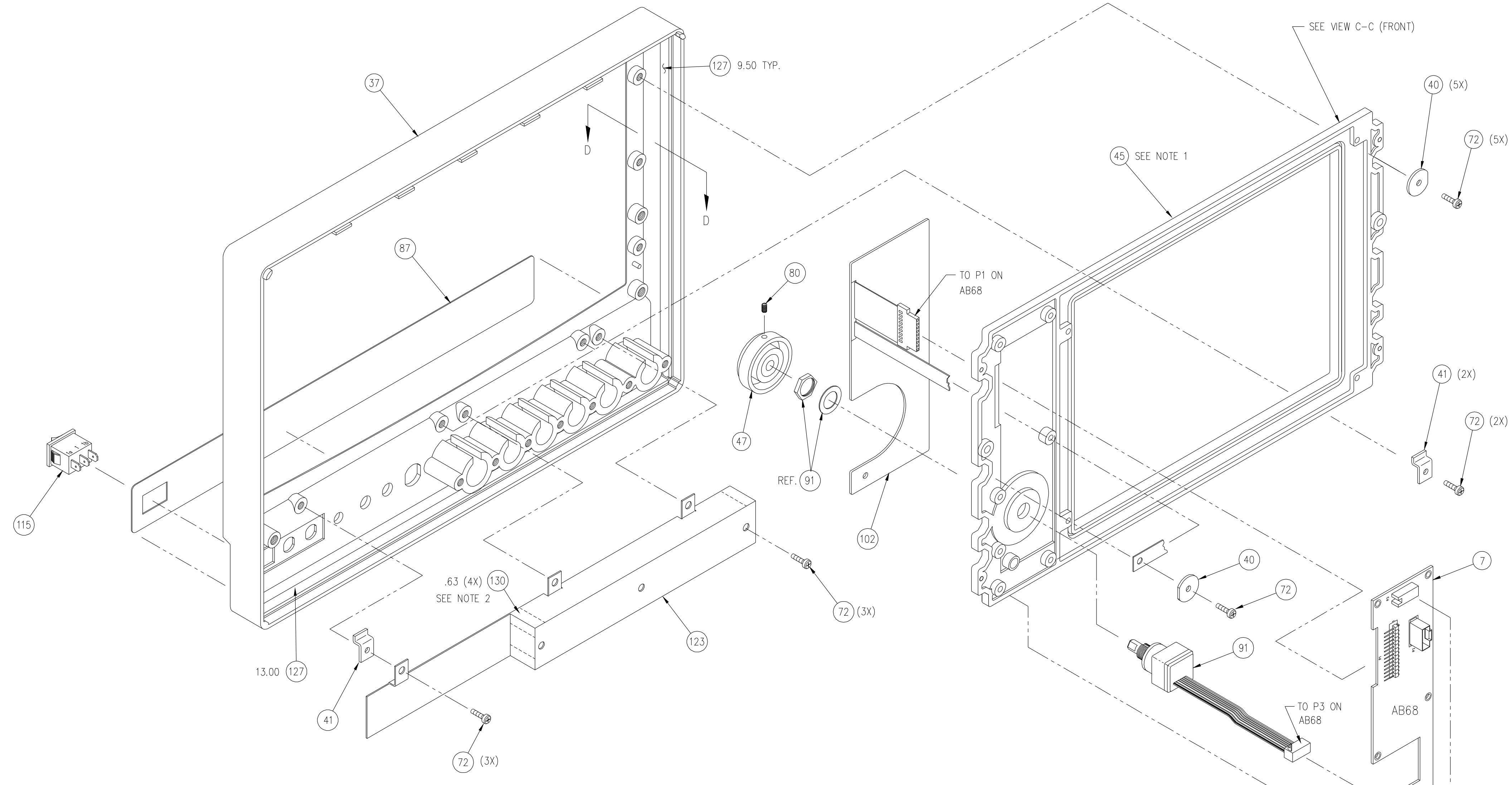
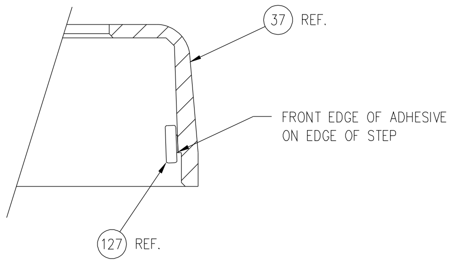
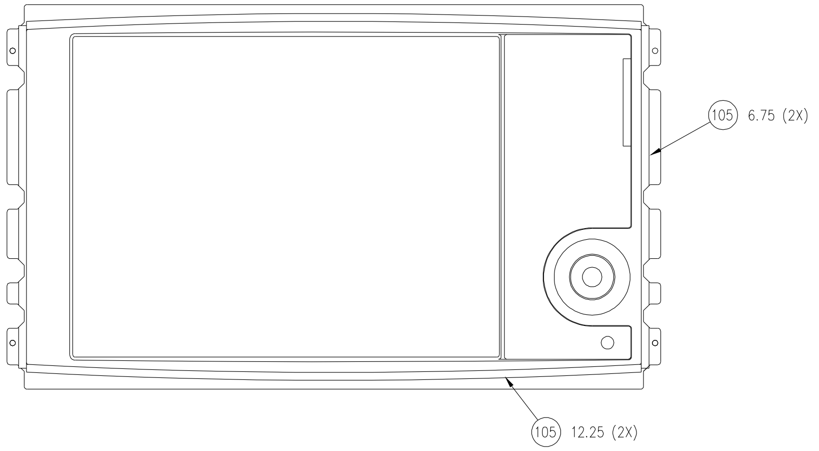
TITLE
ASSY: 3155MVS
MILLENNIA REMOTE DISPLAY CONTROLLER

CAD SCALE	SHEET	DWG. NO.	REV.
.75 : 1	4 of 10	197C540	Y


SEE VIEW C-C (FRONT)
37
127 9.50 TYP.
D
D
87
80
TO P1 ON AB68
45 SEE NOTE 1
40 (5X)
72 (5X)
41 (2X)
72 (2X)
47
REF. 91
102
115
.63 (4X) 130
SEE NOTE 2
123
72 (3X)
13.00 127
41
72 (3X)
40
72
7
91
TO P3 ON AB68
AB68
73 (7X)


37 REF.
FRONT EDGE OF ADHESIVE ON EDGE OF STEP
127 REF.

SECTION D-D
TYPICAL
CAD SCALE: 2:1


105 6.75 (2X)
105 12.25 (2X)

VIEW C-C
FRONT

NOTES:

1. APPLY ONE DROP OF P/N M020, ADHESIVE (ITEM 103) ALONG TOP MATING SEAM IN CENTER OF P/N HM50A2, FRONT PANEL MOLDING (ITEM 37) AND MATE WITH P/N HM50B1, DISPLAY INSERT MOLDING (ITEM 45). HOLD UNTIL SET. THEN APPLY A 1/8" BEAD OF P/N M008A, CLEAR RTV ADHESIVE/SEALANT (ITEM 104) ALONG THE TOP MATING SEAMS BETWEEN THE (3) CENTERMOST RIBS ON FRONT PANEL MOLDING.
2. APPLY P/N M092, COPPER TAPE (ITEM 130) TO THE INSIDE OF P/N HM50BD, CONNECTOR COVER (ITEM 123) AT EACH CORNER.

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± ——
.XXX = ± ——
ANGLES = ± ——

DRAWN	CHY	10DEC97
DESIGNED	CHY	10DEC97
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
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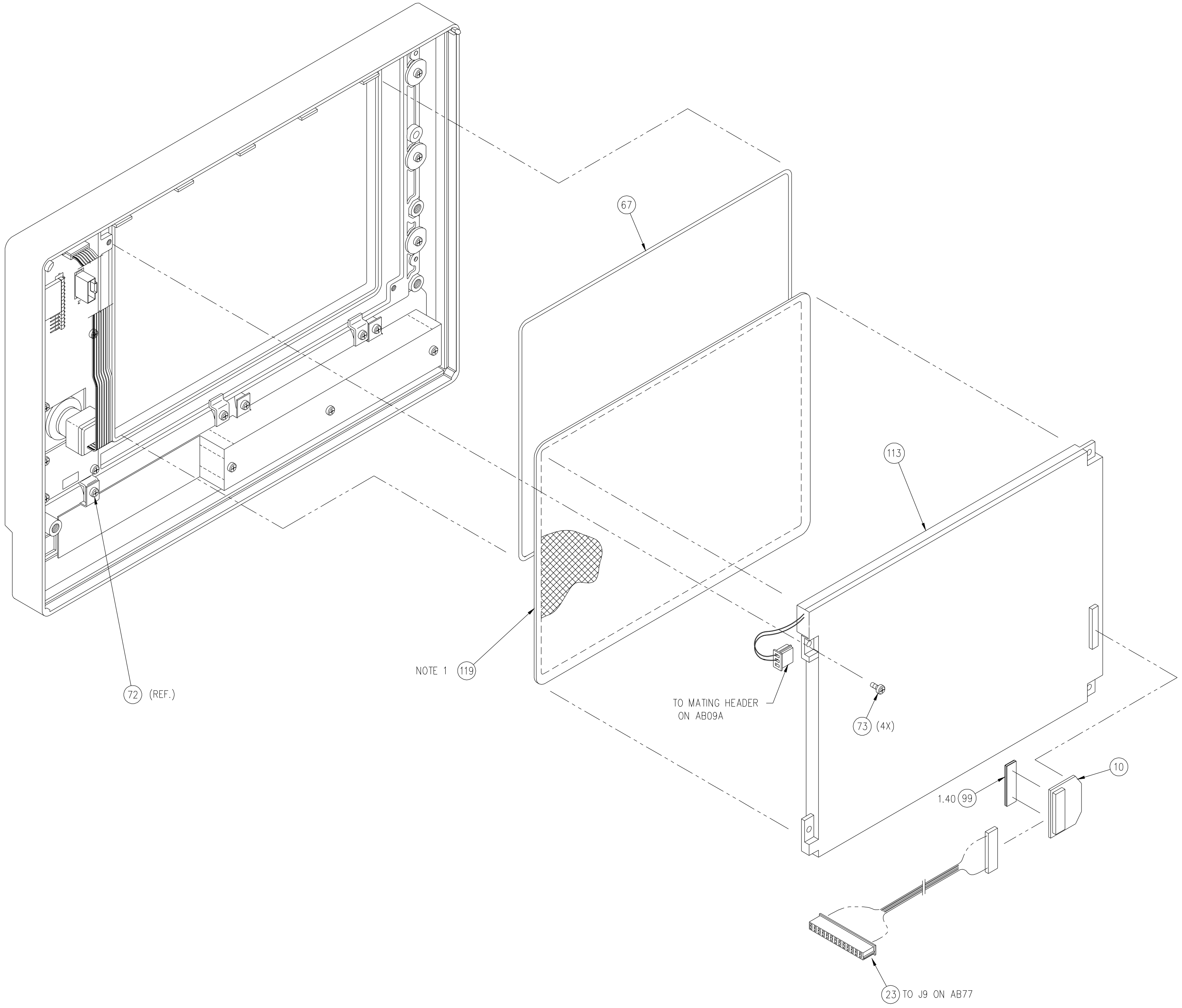
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
ASSY: 3155MVS
MILLENNIA REMOTE DISPLAY CONTROLLER

CAD SCALE	SHEET	DWG. NO.	REV.
.75 : 1	5 of 10	197C540	Y


67
113
NOTE 1 119
72 (REF.)
TO MATING HEADER ON AB09A
73 (4X)
10
1.40 99
23 TO J9 ON AB77

NOTES:

1. RECESSED EDGE TO BE PLACED AGAINST P/N H122 GASKET (ITEM 67).

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE	DRAWN	CHY	10DEC97
.XX = ± ——	DESIGNED	RM	10DEC97
.XXX = ± ——	CHECKED		
ANGLES = ± ——	APPROVED		

INCHES

THIRD ANGLE PROJECTION

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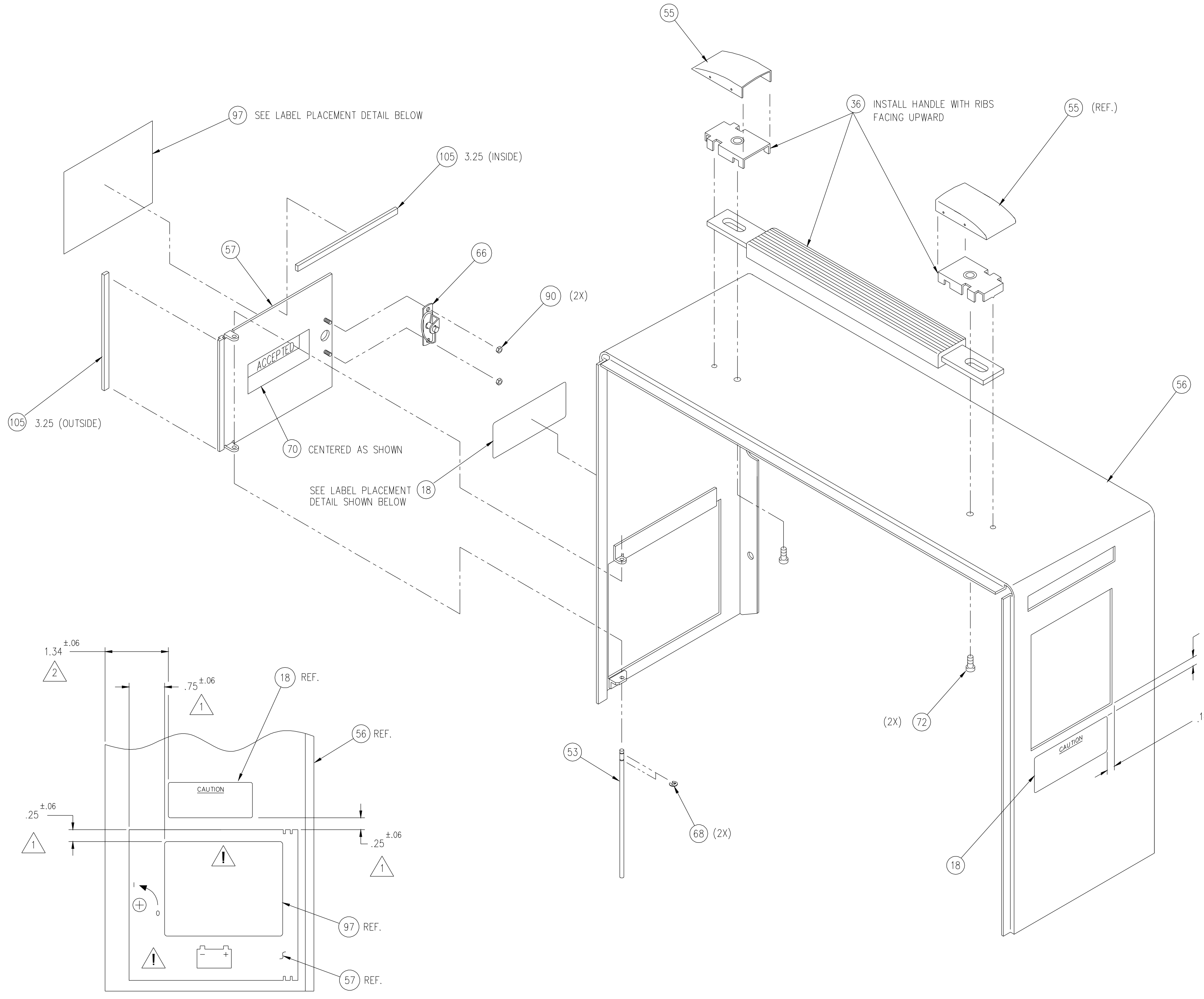
TITLE
ASSY: 3155MVS
MILLENNIA REMOTE DISPLAY CONTROLLER

CAD SCALE	SHEET	DWG. NO.	REV.
.75 : 1	6 OF 10	197C540	Y


55
36 INSTALL HANDLE WITH RIBS FACING UPWARD
55 (REF.)
97 SEE LABEL PLACEMENT DETAIL BELOW
105 3.25 (INSIDE)
57
66
90 (2X)
ACCEPTED
105 3.25 (OUTSIDE)
70 CENTERED AS SHOWN
SEE LABEL PLACEMENT DETAIL SHOWN BELOW 18
56
.25 ±.06
.156 ±.06
CAUTION
(2X) 72
53
68 (2X)
18
1.34 ±.06
2
.75 ±.06
1
18 REF.
56 REF.
CAUTION
.25 ±.06
1
.25 ±.06
1
97 REF.
57 REF.

LABEL PLACEMENT DETAIL

1. DIMENSIONS ARE FROM EDGES OF P/N HM50W BATTERY DOOR (ITEM 57).
2. DIMENSION IS FROM EDGE OF P/N HM50T COVER (ITEM 56).

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE			
.XX = ± ——	DRAWN	CHY	10DEC97
.XXX = ± ——	DESIGNED	RM	10DEC97
ANGLES = ± ——	CHECKED		
	APPROVED		

INCHES

THIRD ANGLE PROJECTION

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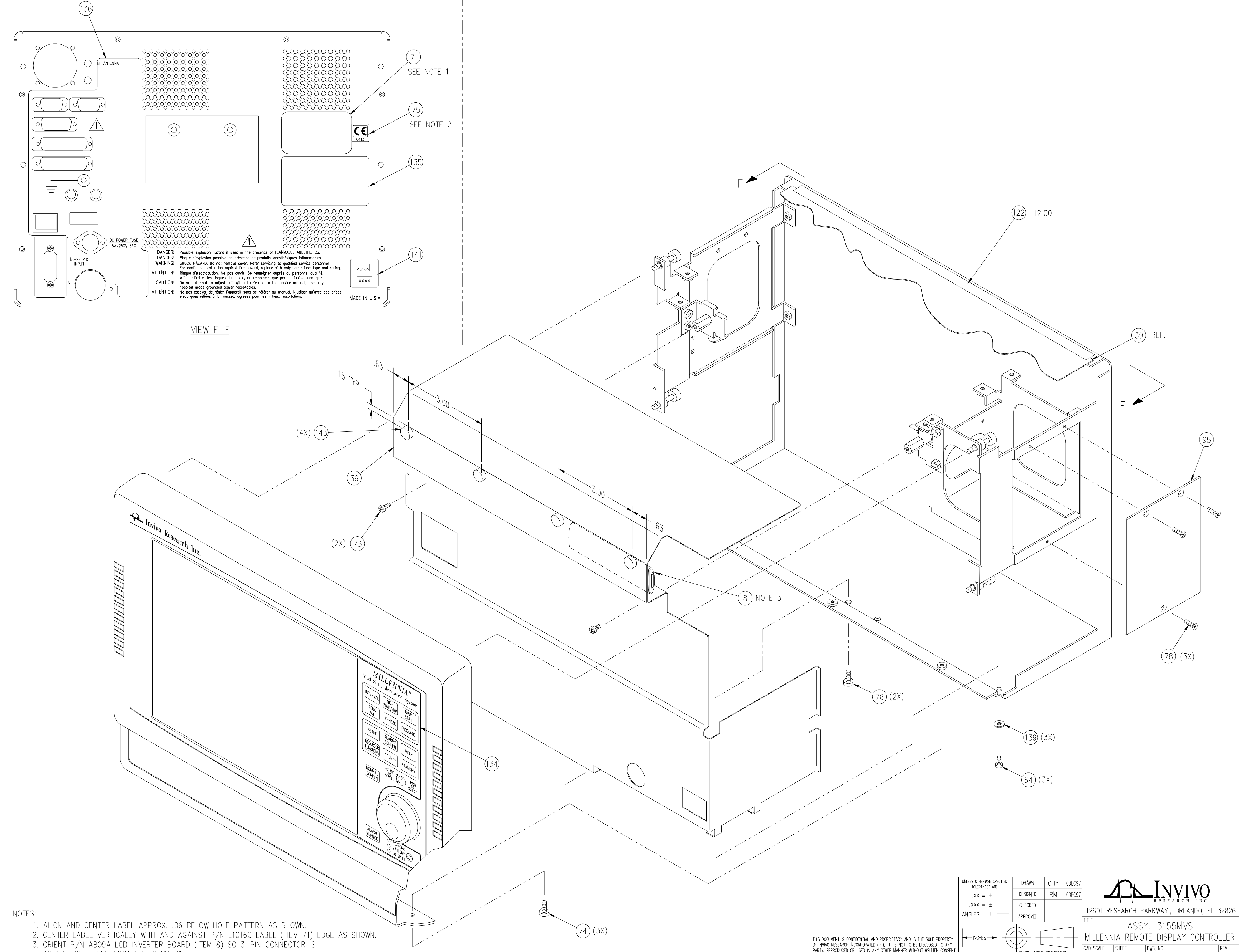
TITLE
ASSY: 3155MVS
MILLENNIA REMOTE DISPLAY CONTROLLER

CAD SCALE	SHEET	DWG. NO.	REV.
.75 : 1	7 of 10	197C540	Y


136
RF ANTENNA
71
SEE NOTE 1
75
SEE NOTE 2
C€
0413
135
DC POWER FUSE
5A/250V 3AG
18–22 VDC
INPUT
141
XXXX
MADE IN U.S.A.
F
122
12.00
39
REF.
F
.63
.15 TYP.
3.00
(4X)
143
39
3.00
.63
(2X)
73
8
NOTE 3
95
78
(3X)
76
(2X)
139
(3X)
64
(3X)
Invivo Research Inc.
MILLENNIA™
Vital Signs Monitoring System
INTERVAL
NIBP START/STOP
NIBP STAT
ZERO ALL
FREEZE
RECORD
SETUP
ALARMS SCREEN
HELP
RECORDER FUNCTIONS
TRENDS
STANDBY
NORMAL SCREEN
ROTATE TO SCROLL
PRESS TO SELECT
ALARM SILENCE
~/CHG
BATTERY
LO BATT
134
74
(3X)

DANGER! Possible explosion hazard if used in the presence of FLAMMABLE ANESTHETICS.
DANGER! Risque d'explosion possible en présence de produits anesthésiques inflammables.
WARNING! SHOCK HAZARD. Do not remove cover. Refer servicing to qualified service personnel.
For continued protection against fire hazard, replace with only same fuse type and rating.
ATTENTION! Risque d'electrocution. Ne pas ouvrir. Se renseigner auprés du personnel qualifié.
Afin de limiter les risques d'incendie, ne remplacer que par un fusible identique.
CAUTION! Do not attempt to adjust unit without referring to the service manual. Use only hospital grade grounded power receptacles.
ATTENTION! Ne pas essayer de régler l'appareil sans se référer au manuel. N'utilser qu'avec des prises electriques reliées à la masset, agréées pour les milieux hospitaliers.

VIEW F–F

NOTES:

1. ALIGN AND CENTER LABEL APPROX. .06 BELOW HOLE PATTERN AS SHOWN.
2. CENTER LABEL VERTICALLY WITH AND AGAINST P/N L1016C LABEL (ITEM 71) EDGE AS SHOWN.
3. ORIENT P/N AB09A LCD INVERTER BOARD (ITEM 8) SO 3–PIN CONNECTOR IS TO THE RIGHT AND LOCATED AS SHOWN.

UNLESS OTHERWISE SPECIFIED
TOLERANCES ARE
.XX = ± ——
.XXX = ± ——
ANGLES = ± ——

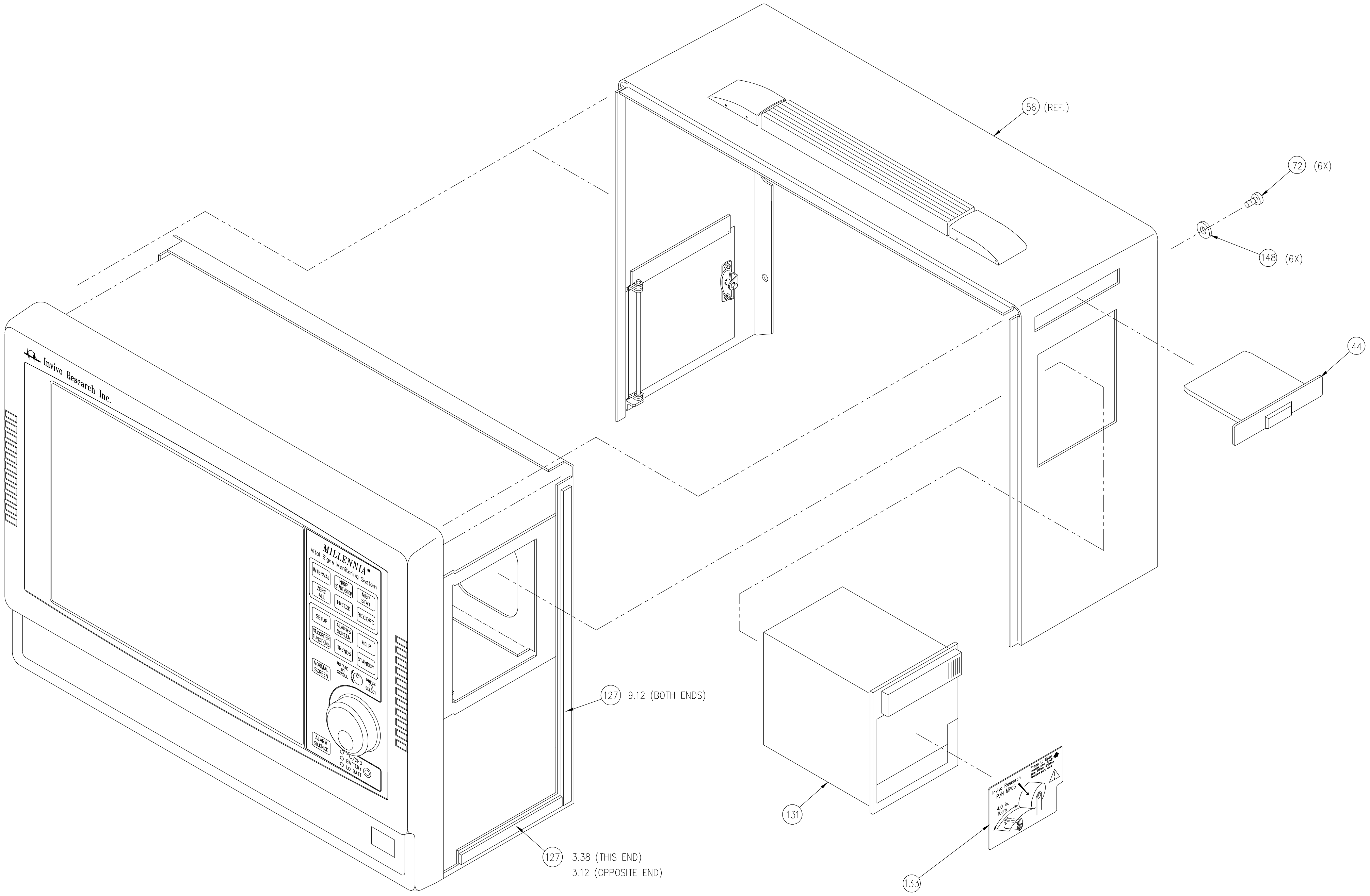
DRAWN	CHY	10DEC97
DESIGNED	RM	10DEC97
CHECKED		
APPROVED		

← INCHES →
THIRD ANGLE PROJECTION
DO NOT SCALE THIS DRAWING !!!

INVIVO
RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
ASSY: 3155MVS
MILLENNIA REMOTE DISPLAY CONTROLLER

CAD SCALE	SHEET	DWG. NO.	REV.
.75 : 1	8 of 10	197C540	Y


56 (REF.)
72 (6X)
148 (6X)
44
127 9.12 (BOTH ENDS)
127 3.38 (THIS END)
3.12 (OPPOSITE END)
131
133
Invivo Research Inc.
MILLENNIA™
Vital Signs Monitoring System
INTERVAL
NIBP START/STOP
ZERO ALL
NIBP STAT
FREEZE
SETUP
RECORD
ALARMS SCREEN
RECORDER FUNCTIONS
HELP
TRENDS
STANDBY
NORMAL SCREEN
ROTATE TO SCROLL
PRESS TO SELECT
ALARM SILENCE
/CHG
BATTERY
LO BATT

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UNLESS OTHERWISE SPECIFIED
TOLERANCES ARE
.XX = ±
.XXX = ±
ANGLES = ±

DRAWN	CHY	10DEC97
DESIGNED	RM	10DEC97
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
DO NOT SCALE THIS DRAWING !!!

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12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
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MILLENNIA REMOTE DISPLAY CONTROLLER

CAD SCALE	SHEET	DWG. NO.	REV.
.75 : 1	9 of 10	197C540	Y

3155A-1-1 LANGUAGE OPTION 1, ENGLISH

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
87	L2088	1	LABEL, FRONT PANEL, 3155A
97	L2054	1	LABEL, BATTERY REMOVAL
106	9545	1	MANUAL, OPERATOR'S, 3155MVS/3155A
134	L2103	1	OVERLAY/GRAPHICS, 3500
136	L2064A	1	LABEL, BASEPLATE, 3155A, ENG

3155A-1-2 LANGUAGE OPTION 2, GERMAN

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
87	L2088A	1	LABEL, FRONT PANEL, 3155A EURO.
97	L2054G	1	LABEL, BATTERY REMOVAL, GERMAN
106	9549G	1	MANUAL, OPERATOR'S, 3155A, GERMAN
134	L2103G	1	OVERLAY/GRAPHICS, 3500, GERMAN
135	L2044G	1	LAB, WARNING, BASEPLATE, 3500, GERMAN
136	L2064AG	1	LABEL, BASEPLATE, 3155A, GER

3155A-1-3 LANGUAGE OPTION 3, FRENCH

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
87	L2088A	1	LABEL, FRONT PANEL, 3155A EURO.
97	L2054F	1	LABEL, BATTERY REMOVAL, FRENCH
106	9549F	1	MANUAL, OPERATOR'S, 3155A, FRENCH
134	L2103F	1	OVERLAY/GRAPHICS, 3500, FRENCH
136	L2064AF	1	LAB, BASEPLATE, 3155A, FRN.

3155A-1-4 LANGUAGE OPTION 4, SPANISH

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
87	L2088A	1	LABEL, FRONT PANEL, 3155A EURO.
97	L2054S	1	LABEL, BATTERY REMOVAL, SPANISH
106	9549S	1	MANUAL, OPERATOR'S, 3155A, SPANISH
134	L2103S	1	OVERLAY/GRAPHICS, 3500, SPN.
135	L2044S	1	LAB, WARNING, BASEPLATE, 3500, SPN.
136	L2064AS	1	LAB, BASEPLATE, 3155A, SPN.

3155A-1-5 LANGUAGE OPTION 5, ENGLISH/EURO.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
87	L2088A	1	LABEL, FRONT PANEL, 3155A EURO.
97	L2054	1	LABEL, BATTERY REMOVAL
106	9549	1	MANUAL, OPERATOR'S, 3155A
134	L2103	1	OVERLAY/GRAPHICS, 3500
136	L2064A	1	LABEL, BASEPLATE, 3155A, ENG

3155A-1-6 LANGUAGE OPTION 6, ITALIAN

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
87	L2088A	1	LABEL, FRONT PANEL, 3155A EURO.
97	L2054I	1	LABEL, BATTERY REMOVAL, ITALIAN
106	9549I	1	MANUAL, OPERATOR'S, 3155A, ITALIAN
134	L2103I	1	OVERLAY/GRAPHICS, 3500, ITL.
135	L2044I	1	LAB, WARNING, BASEPLATE, 3500, ITL.
136	L2064AI	1	LAB, BASEPLATE, 3155A, ITL.

3155A-1-7 LANGUAGE OPTION 7, PORTUGUESE

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
87	L2088A	1	LABEL, FRONT PANEL, 3155A EURO.
97	L2054P	1	LABEL, BATTERY REMOVAL, PORTUGUESE
106	9549P	1	MANUAL, OPERATOR'S, 3155A, PRT.
134	L2103P	1	OVERLAY/GRAPHICS, 3500, PRT.
135	L2044P	1	LAB, WARNING, BASEPLATE, 3500, PRT.
136	L2064AP	1	LABEL, BASEPLATE, 3155A, PRT.

3155A-2-1 VOLTAGE OPTION 1, 110V

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
116	AC348	1	CAB., POWER ADAPTER, 3150, 25 FT.
118	AS153	1	POWER ADAPTER, 3150
121	AC348A	1	CAB., POWER ADAPTER, 3150, 5 FT.
125	HH08	2	HOOK, PLASTIC, WHITE, RECT., SUPER
137	AS18	1	ASSY., LINE CORD, 110V, TESTED
138	FU13	2	FUSE, 3/4 AMP, SLO-BLO, 313.750

3155A-2-2 VOLTAGE OPTION 2, 220V EURO./GERMAN

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
116	AC348	1	CAB., POWER ADAPTER, 3150, 25 FT.
118	AS153	1	POWER ADAPTER, 3150
121	AC348A	1	CAB., POWER ADAPTER, 3150, 5 FT.
125	HH08	2	HOOK, PLASTIC, WHITE, RECT., SUPER
137	AS18G	1	ASSY., LINE CORD, 10A/220-230V, EURO.
138	FU25	2	FUSE, 4/10 AMP, 250V, SLO-BLO, 3AG

3155A-2-3 VOLTAGE OPTION 3, 220V UNIVERSAL

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
116	AC348	1	CAB., POWER ADAPTER, 3150, 25 FT.
118	AS153	1	POWER ADAPTER, 3150
121	AC348A	1	CAB., POWER ADAPTER, 3150, 5 FT.
125	HH08	2	HOOK, PLASTIC, WHITE, RECT., SUPER
137	AS18A	1	ASSY., LINE CORD, 220V, TESTED
138	FU25	2	FUSE, 4/10 AMP, 250V, SLO-BLO, 3AG

3155A-2-4 VOLTAGE OPTION 4, 100V

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
116	AC348	1	CAB., POWER ADAPTER, 3150, 25 FT.
118	AS153J	1	POWER ADAPTER, 3150
121	AC348A	1	CAB., POWER ADAPTER, 3150, 5 FT.
125	HH08	2	HOOK, PLASTIC, WHITE, RECT., SUPER
137	AS18A	1	ASSY., LINE CORD, 220V, TESTED
138	FU13	2	FUSE, 3/4 AMP, SLO-BLO, 313.750

3155A-3-1 RECORDER OPTION 1, DUAL CHANNEL RECORDER

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
131	HT16	1	RECORDER, THERMAL, GEN. SCANG. AR42
132	MP05	1	PAPER, THERM. ARRAY, BLACK, 50mm
133	L2036	1	LABEL, PRINTER DOOR (GEN. SCANG.)

3155A-4-1 COMM. OPTION 1, HARDWIRE

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
11	AC329A	-1	CABLE, DATA, TRANSCEIVER, TELEMETRY, 16"
12	AC330A	-1	CABLE, POWER, TRANSCEIVER, TELEMETRY, 16"
20	AC355	-1	CABLE, LOW VOLTAGE DC POWER, 3155
22	AC331	-1	CABLE ANTENNA, TELEMETRY, 8 INCH
25	AM46	REF	PCMCIA CARD, FLASH MEM. OP. SYS., 3500
25	AM69	-REF	PCMCIA CARD, FLASH MEM. OP. SYS., 3155A/MVS
83	NW33	-1	WASHER, NYLON, .120 X .250 X .010
88	H058A	1	PLUG, HOLE, .25 DIA, WHITE, NYLON
89	N002	-1	NUT, HEX, #4-40, ZN
111	AB182B	-1	ASSY, 2410 RADIO PCA
112	HE61	-1	ANTENNA, 2.4 GHZ, RIGHT ANGLE
144	AC355A	1	CABLE, LOW VOLTAGE DC POWER, 3150
154	HI66	-1	INSULATOR, 2410 RADIO PCA

3155A-4-2 COMM. OPTION 2, TELEMETRY, SIEMENS

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
25	AM46	REF	PCMCIA CARD, FLASH MEM. OP. SYS., 3500
25	AM69	-REF	PCMCIA CARD, FLASH MEM. OP. SYS., 3155A/MVS
83	NW33	-1	WASHER, NYLON, .120 X .250 X .010
111	AB182B	-1	ASSY, 2410 RADIO PCA
154	HI66	-1	INSULATOR, 2410 RADIO PCA
167	HE60	1	TRANSCEIVER, 2.4 GHZ, 115200 BPS
168	N002	1	NUT, HEX, #4-40, ZN

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
169	NW05	6	WASHER, FLAT, #6 x .312 x .032
168	SEE CHART	—	TRANSCEIVER, 2.4 GHZ, 115200 BPS
167	SEE CHART	—	NUT, HEX, #4-40, ZN
166	HP86A	1	LUER LOCK, MALE, MALE THD, 1/4-28
165	HP87A	1	LUER LOCK, FEM, FEM. THD, 1/4-28
164	ED01	1	NAFION TUBE, ME DRYER
163	NW26	1	LOCKWASHER, IT, #4, SS, NON-MAG.
162	AK02A	1	KIT, ACCESSORY, START UP, GAS, 20 FT.
161	AS159A	1	ASSY, ANESTH. AGNT. ANLYZR. MODULE
160	AP50	1	ASSY, FiO2 SENSOR COUPLER, 3500
159	AC363A	1	CAB, INTRCNCT, A/D, AGENT, 3155A
158	AC362	1	CAB, INTCN, PWR. SUPPLY, AGENT I.D.
157	HM70V	3	SPACER, MODIFIED, FiO2 SENSOR
156	HM70AJ	1	KEEPER, FiO2 ADAPTER, 3500
155	NS109	1	SCR, #6-32 X 7/16 LG, SHMS, BLK.
154	HI66	1	INSULATOR, 2410 RADIO PCA
153	TL003	1	WRENCH, 7/64 HEX KEY
152	9461	1	KIT, ANESTH. OXYGEN SENSOR, 3500
151	HP112	1	LUER, FEMALE TEE
150	M198	A/R	ADHESIVE, LOCTITE 569 SEALANT
149	M014	REF	COMPOUND, HEAT SINK, 276-1372
148	NW02	8	WASHER, NYLON, #6 X .312 X .032
147	HP106	1	FITTING, BLKHD, LUER, FEM, BRASS, 1/16
146	HP115	33.50	TUBING, VITON, 1/16 I.D. X 1/8 O.D.
145	HC01	2	CLAMP, 1/4, NX2
144	HS56	1	STANDOFF, 3/16 HEX, M/F, 4-40 X .500
143	HI58	1	SPACER, 40mm FAN
142	M007	A/R	ADHESIVE, LOCTITE 362, RED, THREADLOCK
141	L185	1	LABEL, DATE OF MANUFACTURE
140	NW08	4	LOCKWASHER, INT. TOOTH, #8, SS
139	NW12	14	WASHER, #4 X .125 X .312 X .030
138	SEE CHART	—	FUSE
137	SEE CHART	—	ASSY., LINE CORD
136	SEE CHART	—	LAB, BASEPLATE, 3155MVS
135	SEE CHART	—	LAB, WARNING, BASEPLATE, 3500
134	SEE CHART	—	OVERLAY/MEMBRANE KEYPAD, 3500
133	SEE CHART	—	LABEL, PRINTER DOOR
132	SEE CHART	—	PAPER, THERM. ARRAY, BLACK, 50mm
131	SEE CHART	—	RECORDER, THERMAL
130	M092	3.25	TAPE, SHIELDING, COPPER 1" WIDE
129	NS35	8	SCR., #4-40 x 3/4 LG., PHMS-XR, ZN
128	H079	1	LATCH BLOCK, "D" CONN, .090 PNL.
127	H112	56.75	GASKET, EMI, CHO-FOAM, .276W X .079H
126	L2102	1	SWITCHPAD, MEMBRANE, 3500
125	SEE CHART	—	HOOK, PLASTIC, RECT., WHITE, SUPER
124	HM50BRA	1	COVER, CONNECTOR, BASEPLATE, 3155A
123	HM50BDA	1	COVER, CONNECTOR, FR. PNL, 3155A
122	M088A	15.50	TAPE, KAPTON, .004 THK., 1/2" WD, ROLL
121	SEE CHART	—	CAB., POWER ADAPTER, 3150, 5 FT.
120	FE02	2	FEET, GREY
119	H125	1	SCREEN, EMI/RF, 80 OPI, 8.87x6.73
118	SEE CHART	—	POWER ADAPTER, 3150
117	N003	1	NUT, HEX, #8-32, ZN
116	SEE CHART	—	CAB., POWER ADAPTER, 3150, 25 FT.
115	S015	1	SWITCH, ROCKER, 1803-1121
114	FE05	4	FOOT, CLR. POLYURTHN., .312 DIA. x .085
113	HE70	1	DISPLAY, LCD, COLOR, 10.4" DIAG. ACTIVE, 3V
112	HE61	1	ANTENNA, 2.4 GHz, RIGHT ANGLE
111	AB182B	1	ASSY, 2410 RADIO PCA
110	M149	1	INSERT, BATTERIES
109	M148	1	BOX, ACC., 15.75 X 12.5 X 2.75
108	M145A	1	FILLER, INSERT, FOAM, 3500
107	M145	1	BOX, SHIPPING, 3500
106	SEE CHART	—	MANUAL, OPERATOR'S, 3155MVS/3155A
105	H120	44.50	GASKET, EMI, .157W X .039H, PSA
104	M008A	REF	ADHESIVE/SEALANT, RTV, CLEAR, 732
103	M020	REF	ADHESIVE, LOCTITE, TOUGHENED, 411
102	HS28A	10	SCREWLOCK, FEMALE, #4-40 X .250 LG.
101	NS81N	1	SCR, #4-40 X 5/16 LG, FIHMS-XR, NM
100	PA366	1	GASKET, EMI/RFI, 15 PIN CONN.
99	M004	9.00	TAPE, ACRYLIC, DS, .010 THK X .50 WD.
98	HM50AJ	1	INSULATOR, MOTHERBOARD PCA, 3500
97	SEE CHART	—	LABEL, BATTERY REMOVAL
96	HF05	2	FINGER GUARD, 40mm FAN
95	HM50AE	1	COVER, RECORDER, 3500
94	FE06	1	BUMPER, PROTECTIVE, BLK, .50W X .23H
93	HI40	1	INSULATOR, 2.70 X 3.25 - 3500
92	WT05	1.0"	HEAT SHRINK 3/16" I.D. BLACK
91	S035	1	ENCODER, OPTICAL, 24 POS., PB, MINI
90	N006	2	NUT, HEX, #2-56, ZN
89	N002	20	NUT, HEX, #4-40, ZN
88	SEE CHART	—	PLUG, HOLE, .25 DIA, WHITE, NYLON
87	SEE CHART	—	LABEL, FRONT PANEL, 3155A
86	NW09	11	LOKWSHR, IT,SS, #4 X .200 X .020
85	NW32	6	FLTW, #8, REG. SERIES - ZN
84	N001	2	NUT, HEX, #6-32, ZN
83	NW33	8	WASHER, NYLON, .120 X .250 X .010
82	NW01	6	LOKWSHR, IT,SS, #6 X .285 X .040
81	NS06	2	SCR, #6-32 X 1/2 LG. PHMS-XR, ZN
80	NS95	1	SCR, SET, #4-40 X 3/16, CP. PT., SS
79	NS93	4	SCR, CAPTIVE, #8-32 X 1/2, SHCS
78	NS98	9	SCR, #4-40 X 1/4 LG. FHMS-XR, ZN
77	NS50	4	SCR, #4-40 X 1/4 LG. PHMS-NY
76	NS05	4	SCR, #8-32 X 5/16 LG. PHMS-XR, ZN
75	L137A	1	LABEL, C.E. COMPLIANCE, MDD (SEMKO)
74	NS10	2	SCR, #6-32 X 3/8 LG. PHMS-XR, ZN
73	NS04	30	SCR, #4-40 X 1/4 LG. PHMS-XR, ZN
72	NS02	26	SCR, #6-32 X 1/4 LG. PHMS-XR, ZN
71	L1016C	1	LABEL, MODEL/SERIAL, GENERIC
70	L014	2	LABEL "ACCEPTED" W02
69	H139	1	CAP, PROTECTIVE, KEYBOARD CONNECTOR
68	H086	2	RING, RETAINING, 3500
67	H122	30.50	GASKET, SHIELDING, EMI, .118 X .118
66	H088	1	LATCH, SPRING, SLOTTED HEAD
65	H006	2	SPEAKER CLIP 48SC004
64	NS26	6	SCR., #4-40 X 3/8 LG., PHMS-XR, ZN
63	HS77	4	STANDOFF. .25 HEX, M/F, 4-40 X .875, AL
62	HS49	2	STANDOFF, HEX, M/F, 4-40 X .500
61	HS55	2	STANDOFF, HEX, M/F, 4-40 X .500 NY
60	HS47	4	STANDOFF, HEX, M/F, 4-40 X .250
59	HS48	2	STANDOFF, HEX, M/F, 4-40 X .375
58	AB288	1	CAB., ANALOG OUT, 3500
57	HM50W	1	DOOR, BATTERY, OMNI-TRAK 3500
56	HM50T	1	COVER, 3500
55	HM50R	1	END CAP, PAINTED, 3500
54	HM50AD	1	SPRING, DOOR, 3500
53	HM50X	1	PIN, HINGE, 3500
52	HM50J3A	1	RET. BRKT, P.C. BD, R.S. BTTM, 3155MVS
51	HM50J2A	1	RET. BRKT, P.C. BD, L.S. BTTM, 3155MVS
50	HM50J	1	BRKT., SUPPORT, LEFT SIDE, 3500
49	HM50BL	1	BRKT., SUPPORT, RT. SIDE, 3500
48	HM50EA	1	CAGE, BATTERY, 3500 SERIES
47	HM50D	1	SELECTOR KNOB (FINGER TURN), 3500
46	HM50BK	1	BASEPLATE, 3500 (Fi02)
45	HM50B1	1	COND. PAINT, DISPLAY INSERT MOLDING, 3500
44	HM50AP	1	COVER, PCMCIA, OMEGA 3500
43	HM50AN	1	BRKT., STIFFENER, SUPPORT, 3500
42	AB93	1	PCA, REAR PANEL CONNECTORS, 3500
41	HM50AH	3	CLAMP, BEZEL BTTM, OMNI-TRAK 3500
40	HM50AG	6	CLAMP, BEZEL SIDE, OMNI-TRAK 3500
39	HM50BJ	1	SHIELD, INNER, 3155
38	H137	3	SPRING, COMPRESSION, .24 O.D. x .44 LG., SS
37	HM50A2	1	COND. PAINT, FRONT PANEL MOLDING, 3500
36	HH09B	1	VINYL HANDLE & INSERT, FROM HH09
35	HE16	1	BINDING POST, METAL
34	HB10	3	BATTERY, 12V, RECHARGABLE
33	FU31	1	FUSE, 5 AMP, 5 x 20mm, SLO-BLO
32	FU30	1	FUSEHOLDER, 5 x 20mm, 90° TERM., PNL. MNT.
31	FE08	2	FEET, TIP-UP, PLASTIC
30	FE07	2	FOOT, CASE, .82 DIA. X .59 H
29	AS141A	1	FAN, DUAL, 3500
28	AS137	1	ASSY, SPEAKER, OMNI-TRAK 3500
27	AM45	1	PROM SET, MULTIFUNCTION I/O, 3500
26	AM40	1	PROM SET, KEYBOARD INTERFACE, 3500
25	AM69	REF	PCMCIA CARD, FLASH MEM. OP. SYS., 3155A/MVS
24	AM44C	1	PROM SET, VIDEO BIOS, ACTIVE, LG SEMICON, 3500
23	AC252	1	CAB, SHARP ACTIVE LCD DISPLAY, 3500
22	AC331	1	CABLE, ANTENNA, TELEMETRY, 8"
21	AC269	1	CAB, MOTHER BD. PWR, OMNI 3500
20	AC355	1	CAB, LOW VOLTAGE DC POWER, 3155
19	AC261	1	CABLE, XENTEK, INVRTR/VGA, 3500
18	L2082	2	LABEL, CAUTION, 3155A
17	AC257	1	CABLE, RIBBON, 24P, .025 CTRS, 8"
16	H134	2	SCREEN, EMI/RFI, 40mm FAN
15	AC266	1	CAB, KEYBOARD, 3500
14	AC113	1	CAB, PWR SUPPLY/AD BD., 3500
13	AC270	1	CAB, FRONT SWITCH PWR, 3500
12	AC330A	1	CABLE, POWER, TRANSCEIVER, TELEMETRY, 16"
11	AC329A	1	CABLE, DATA, TRANSCEIVER, TELEMETRY, 16"
10	AB97	1	PCA, SHARP 321 CBL. ADPTR., (SHARP ONLY)
9	AB70	1	PCA, MULTI-FUNCTION I/O, 3500
8	AB09A	1	PCA, INVERTER, LCD, LS380, XENTEK
7	AB68	1	PCA, KEYBD. INTRFCE, OMNI-TRAK, 3500
6	AB88	1	PCA, PC/AT MOTHERBD, w/MPRCSR
5	AB77	1	PCA, PCMCIA/VGA DISPLAY, 3500
4	AB72A	1	PCA, POWER INTRCNCT, OMEGA 3500
3	AB69A	1	PCA, PWR SWITCHER/BATT CHARGR, 3500
2	AB69	1	PCA, POWER SUPPLY, 3500
1	AB65A	1	ASSY, A/D PCA, 3500

REF. ASSEMBLY INSTRUCTION AI072

REV.	DESCRIPTION	BY	DATE	REV.	DESCRIPTION	BY	DATE
				J	PER ECN #8115	SR	30MAY01
				H	PER ECN #8173	CHY	5FEB01
N	PER ECN #8796	CHY	1MAY02	G	PER ECN #8082	CHY	8DEC00
M	PER ECN #8496	CHY	13DEC01	F	PER ECN #8061	CHY	10OCT00
L	PER ECN #8394	SR	31AUG01	E	PER ECN #7869	CHY	18AUG00
K	PER ECN #8399	CHY	7AUG01	D	PER ECN #7615	CHY	10AUG00

REV.	DESCRIPTION	BY	DATE
C	PER ECN #7669	CHY	7JUL00
B	PER ECN #7688	CHY	23MAR00
A	RELEASED, ECN #7512	KCO	11JAN00

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UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± ——
.XXX = ± ——
ANGLES = ± ——

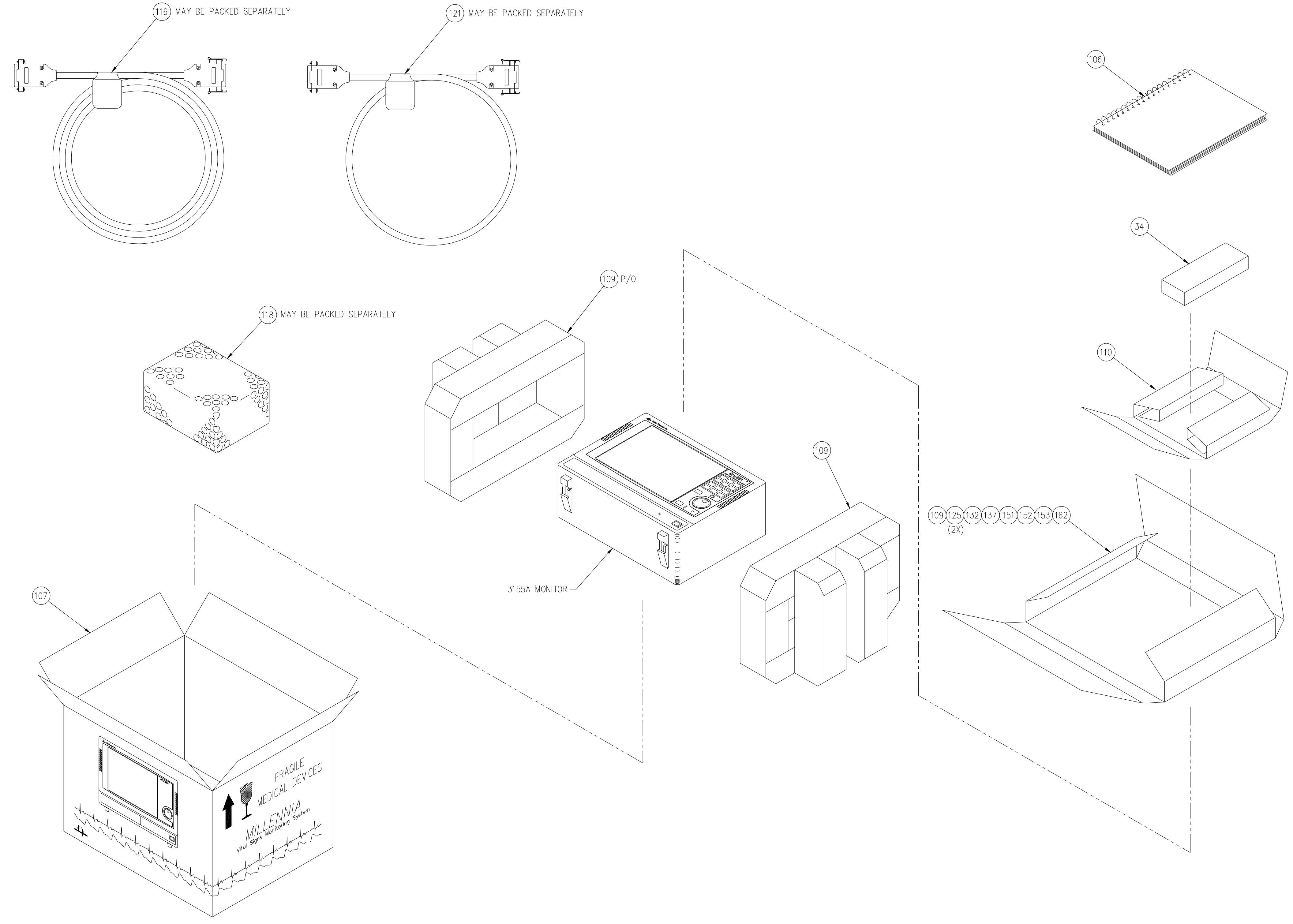
DRAWN	KCO	11JAN00
DESIGNED	RLM	7JAN00
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
DO NOT SCALE THIS DRAWING !!!

INVIVO
RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
ASSY: 3155A
MILLENNIA REMOTE MONITOR, AGENTS

CAD SCALE	SHEET	DWG. NO.	REV.
.75 : 1	1 of 10	197C598	N


116 MAY BE PACKED SEPARATELY
121 MAY BE PACKED SEPARATELY
106
34
118 MAY BE PACKED SEPARATELY
109 P/O
110
109
109 125 132 137 151 152 153 162
(2X)
3155A MONITOR
107
FRAGILE
MEDICAL DEVICES
MILLENNIA
Vital Signs Monitoring System

SCALE: .25 : 1

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UNLESS OTHERWISE SPECIFIED TOLERANCES ARE .XX = ± —— .XXX = ± —— ANGLES = ± ——	DRAWN	KCO	11JAN00
	DESIGNED	RLM	7JAN00
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	APPROVED		

INCHES

THIRD ANGLE PROJECTION

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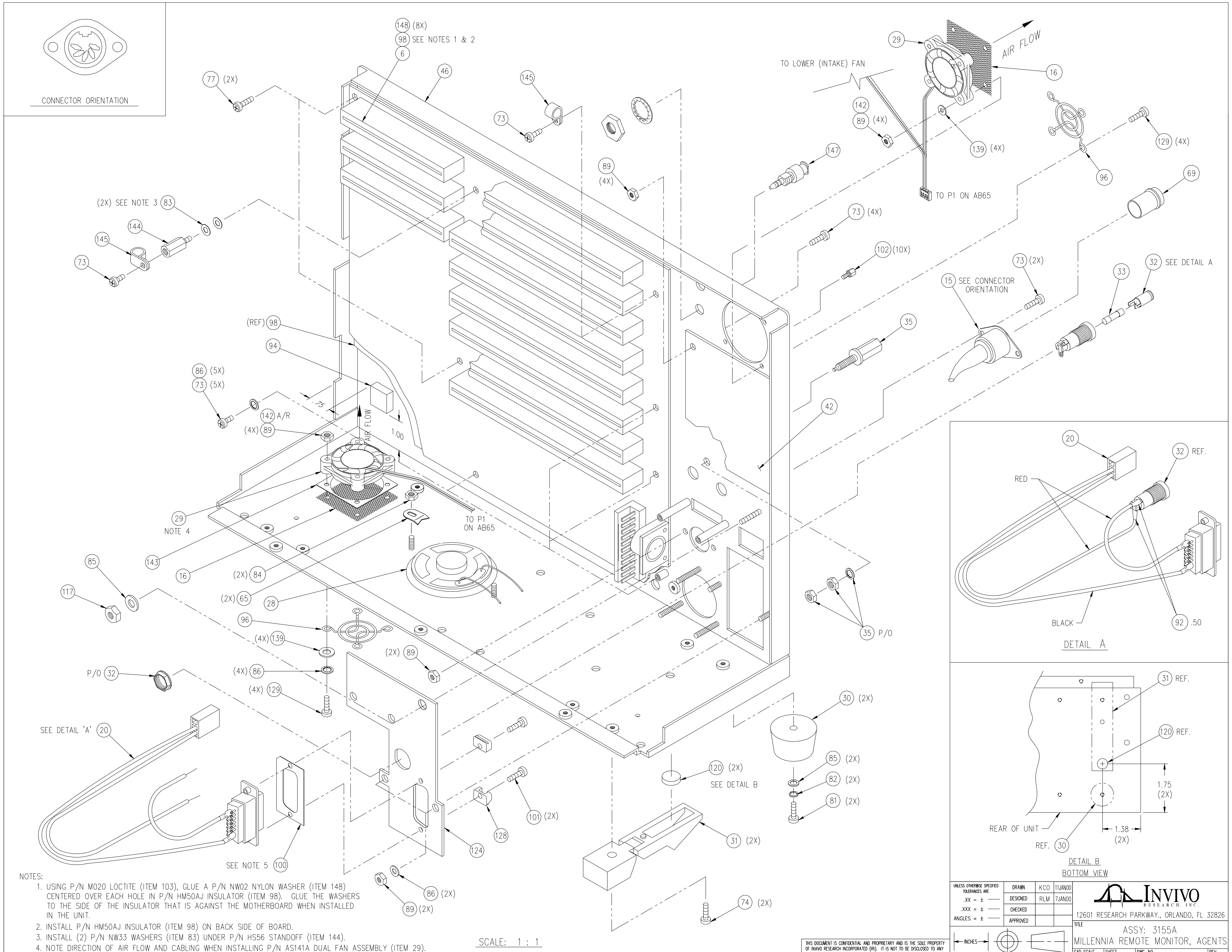
RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
ASSY: 3155A
MILLENNIA REMOTE MONNITOR, AGENTS

CAD SCALE	SHEET	DWG. NO.	REV.
.75 : 1	10 of 10	197C598	N


CONNECTOR ORIENTATION
148 (8X)
98 SEE NOTES 1 & 2
6
46
77 (2X)
145
73
TO LOWER (INTAKE) FAN
29
AIR FLOW
16
142
89 (4X)
139 (4X)
TO P1 ON AB65
96
129 (4X)
69
147
89 (4X)
(2X) SEE NOTE 3 83
144
145
73
73 (4X)
102 (10X)
73 (2X)
15 SEE CONNECTOR ORIENTATION
33
32 SEE DETAIL A
35
(REF) 98
94
86 (5X)
73 (5X)
.75
142 A/R
(4X) 89
AIR FLOW
1.00
42
29
NOTE 4
TO P1 ON AB65
143
16
(2X) 84
(2X) 65
28
85
117
96
(4X) 139
(4X) 86
(2X) 89
(4X) 129
35 P/O
P/O 32
SEE DETAIL 'A' 20
30 (2X)
120 (2X)
SEE DETAIL B
85 (2X)
82 (2X)
81 (2X)
101 (2X)
128
124
31 (2X)
SEE NOTE 5 100
86 (2X)
89 (2X)
74 (2X)
20
32 REF.
RED
BLACK
92 .50
DETAIL A
31 REF.
120 REF.
1.75 (2X)
REAR OF UNIT
REF. 30
1.38 (2X)
DETAIL B
BOTTOM VIEW

NOTES:

1. USING P/N M020 LOCTITE (ITEM 103), GLUE A P/N NW02 NYLON WASHER (ITEM 148) CENTERED OVER EACH HOLE IN P/N HM50AJ INSULATOR (ITEM 98). GLUE THE WASHERS TO THE SIDE OF THE INSULATOR THAT IS AGAINST THE MOTHERBOARD WHEN INSTALLED IN THE UNIT.
2. INSTALL P/N HM50AJ INSULATOR (ITEM 98) ON BACK SIDE OF BOARD.
3. INSTALL (2) P/N NW33 WASHERS (ITEM 83) UNDER P/N HS56 STANDOFF (ITEM 144).
4. NOTE DIRECTION OF AIR FLOW AND CABLING WHEN INSTALLING P/N AS141A DUAL FAN ASSEMBLY (ITEM 29).
5. CHAMFER CORNER .12 X 45° AT LOCATION SHOWN.

SCALE: 1 : 1

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± ——
.XXX = ± ——
ANGLES = ± ——

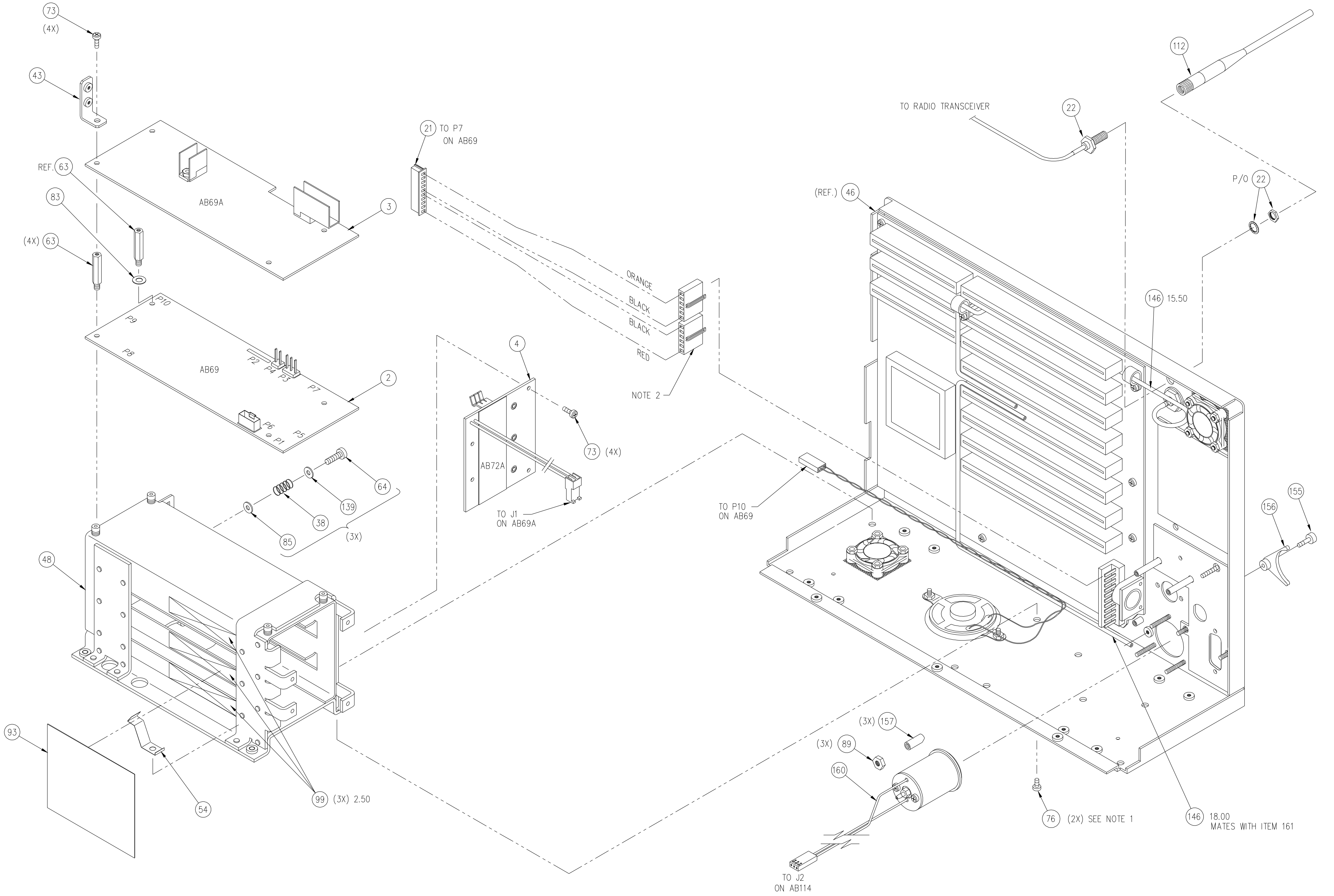
DRAWN	KCO	11JAN00
DESIGNED	RLM	7JAN00
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
DO NOT SCALE THIS DRAWING !!!

INVIVO RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
ASSY: 3155A
MILLENNIA REMOTE MONITOR, AGENTS

CAD SCALE	SHEET	DWG. NO.	REV.
.75 : 1	2 of 10	197C598	N


73
(4X)
43
REF. 63
83
(4X) 63
AB69A
3
P10
P9
P8
AB69
P2
P4
P3
P7
P6
P5
P1
2
21 TO P7
ON AB69
ORANGE
BLACK
BLACK
RED
NOTE 2
4
AB72A
73 (4X)
TO J1
ON AB69A
64
139
38
85
(3X)
48
93
54
99 (3X) 2.50
TO RADIO TRANSCEIVER
22
112
P/O 22
(REF.) 46
146 15.50
TO P10
ON AB69
156
155
(3X) 157
(3X) 89
160
TO J2
ON AB114
76 (2X) SEE NOTE 1
146 18.00
MATES WITH ITEM 161

NOTE:

1. INSTALL ONLY THE TWO (2) REAR SCREWS IN THE BATTERY CAGE AT THIS LEVEL.
2. AFTER INSTALLING P/N AC269 CABLE (ITEM 21), APPLY RTV (ITEM 104) TO THE CABLE CONNECTORS AND HEADER ON P/N AB88 MOTHERBOARD, ENSURING THAT RTV CONTACTS BOTH THE CABLE CONNECTORS AND THE HEADER.

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE			
.XX = ± ——	DRAWN	KCO	11JAN00
.XXX = ± ——	DESIGNED	RLM	7JAN00
ANGLES = ± ——	CHECKED		
	APPROVED		

INCHES

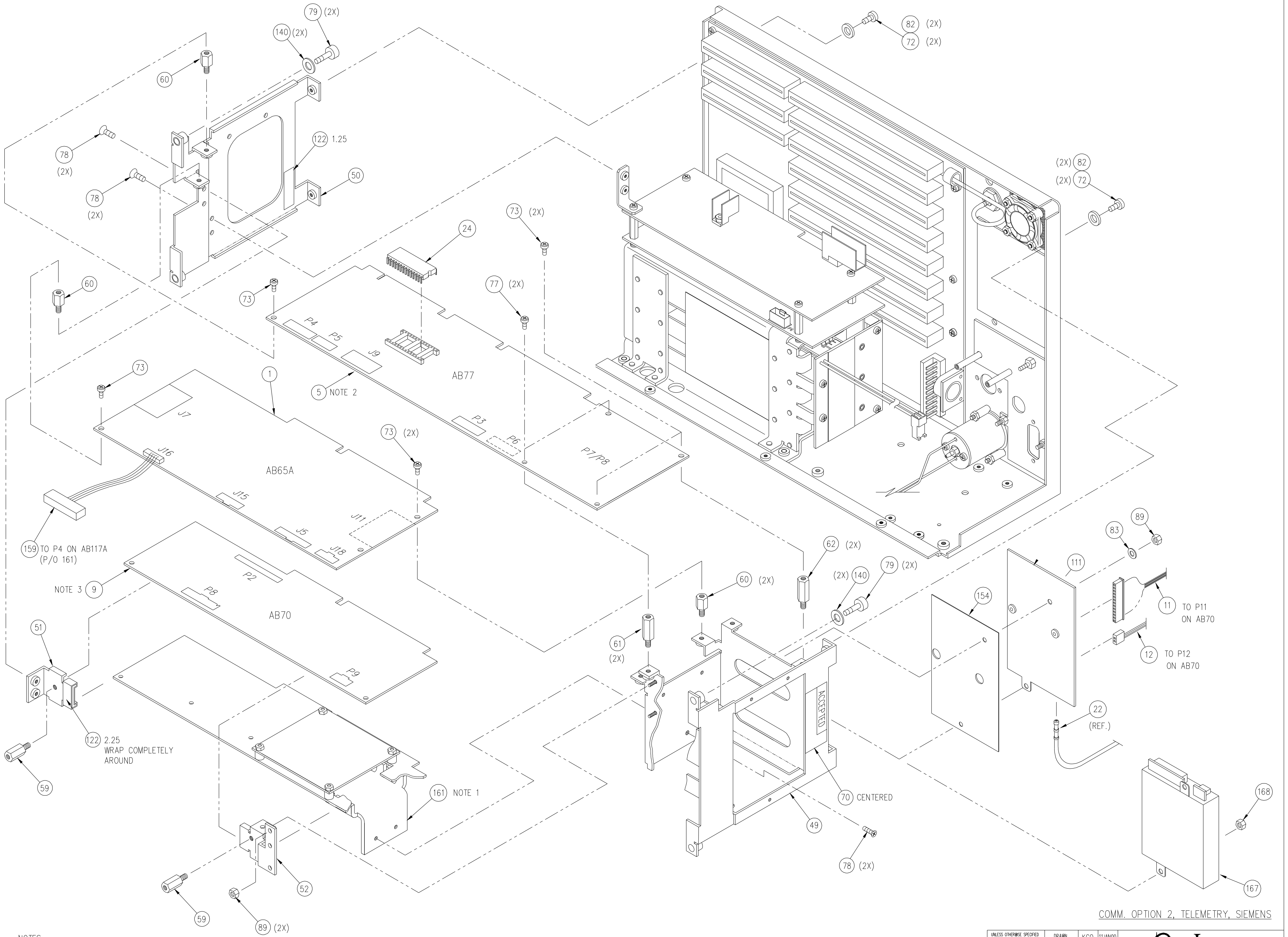
THIRD ANGLE PROJECTION

DO NOT SCALE THIS DRAWING !!!

INVIVO
RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
ASSY: 3155A
MILLENNIA REMOTE MONITOR, AGENTS

CAD SCALE	SHEET	DWG. NO.	REV.
.75 : 1	3 of 10	197C598	N


79 (2X)
140 (2X)
60
78 (2X)
78 (2X)
122 1.25
50
82 (2X)
72 (2X)
(2X) 82
(2X) 72
24
73 (2X)
73
77 (2X)
60
73
1
5 NOTE 2
AB77
P4
P5
J9
P3
P6
P7/P8
J7
J16
AB65A
J15
J5
J11
J18
73 (2X)
159 TO P4 ON AB117A (P/O 161)
NOTE 3 9
P2
P8
AB70
P9
51
122 2.25 WRAP COMPLETELY AROUND
59
161 NOTE 1
52
59
89 (2X)
62 (2X)
60 (2X)
61 (2X)
(2X) 140
79 (2X)
ACCEPTED
70 CENTERED
49
78 (2X)
154
111
83
89
11 TO P11 ON AB70
12 TO P12 ON AB70
22 (REF.)
168
167

COMM. OPTION 2, TELEMETRY, SIEMENS

NOTES:

1. APPLY P/N M014 HEAT SINK COMPOUND (ITEM 149).
2. ON P/N AB77, JUMPER PINS 1 AND 2 ON JMP14 AND JMP15.
3. ON P/N AB70, REMOVE SHUNT AT P10–2,3 INSTALL SHUNT AT P10–1,2.
   REMOVE SHUNTS AT JMP8 AND JMP9.

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± ——
.XXX = ± ——
ANGLES = ± ——

DRAWN	KCO	11JAN00
DESIGNED	RLM	7JAN00
CHECKED		
APPROVED		

INCHES

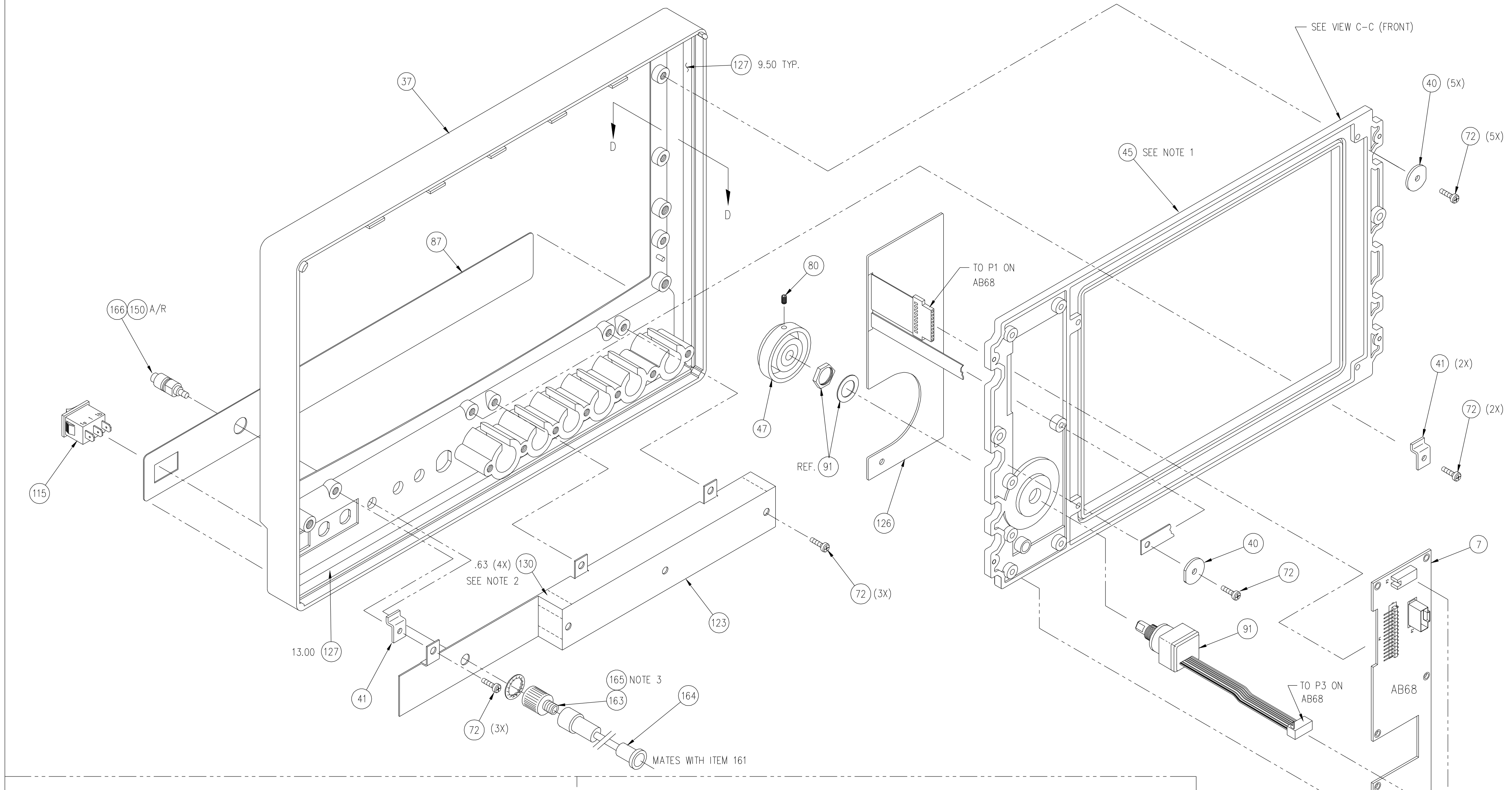
THIRD ANGLE PROJECTION

DO NOT SCALE THIS DRAWING !!!

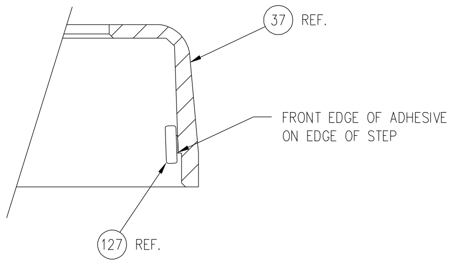
INVIVO
RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
ASSY: 3155A
MILLENNIA REMOTE MONITOR, AGENTS

CAD SCALE	SHEET	DWG. NO.	REV.
.75 : 1	4 of 10	197C598	N

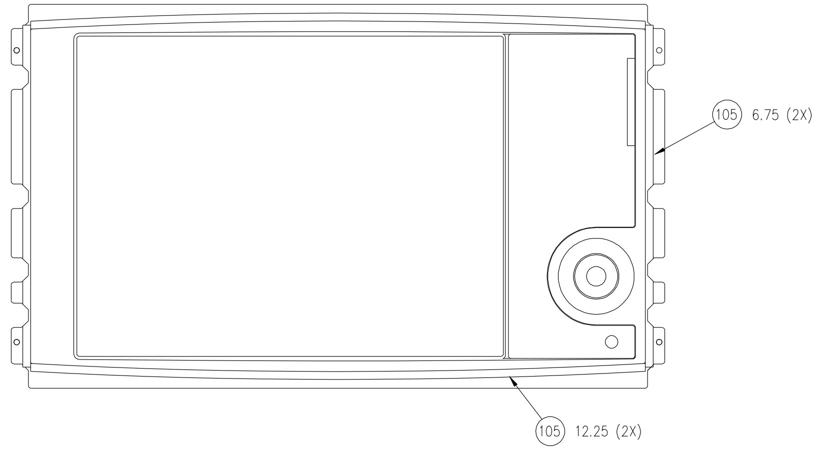


37
127 9.50 TYP.
D
D
87
166 150 A/R
115
13.00 127
.63 (4X) 130
SEE NOTE 2
123
41
72 (3X)
165 NOTE 3
163
164
MATES WITH ITEM 161
72 (3X)
80
47
REF. 91
TO P1 ON
AB68
126
SEE VIEW C-C (FRONT)
45 SEE NOTE 1
40 (5X)
72 (5X)
41 (2X)
72 (2X)
40
72
7
91
TO P3 ON
AB68
AB68
73 (7X)



37 REF.
FRONT EDGE OF ADHESIVE
ON EDGE OF STEP
127 REF.

SECTION D-D
TYPICAL
CAD SCALE: 2:1



105 6.75 (2X)
105 12.25 (2X)

VIEW C-C
FRONT

NOTES:

1. APPLY ONE DROP OF P/N M020, ADHESIVE (ITEM 103) ALONG TOP MATING SEAM IN CENTER OF P/N HM50A2, FRONT PANEL MOLDING (ITEM 37) AND MATE WITH P/N HM50B1, DISPLAY INSERT MOLDING (ITEM 45). HOLD UNTIL SET. THEN APPLY A 1/8" BEAD OF P/N M008A, CLEAR RTV ADHESIVE/SEALANT (ITEM 104) ALONG THE TOP MATING SEAMS BETWEEN THE (3) CENTERMOST RIBS ON FRONT PANEL MOLDING.
2. APPLY P/N M092, COPPER TAPE (ITEM 130) TO THE INSIDE OF P/N HM50BDA, CONNECTOR COVER (ITEM 123) AT EACH CORNER.
3. TORQUE P/N HP87A, LUER LOCK (ITEM 165) TO 25 IN-LB.

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ±
.XXX = ±
ANGLES = ±

DRAWN	KCO	11JAN00
DESIGNED	RLM	7JAN00
CHECKED		
APPROVED		

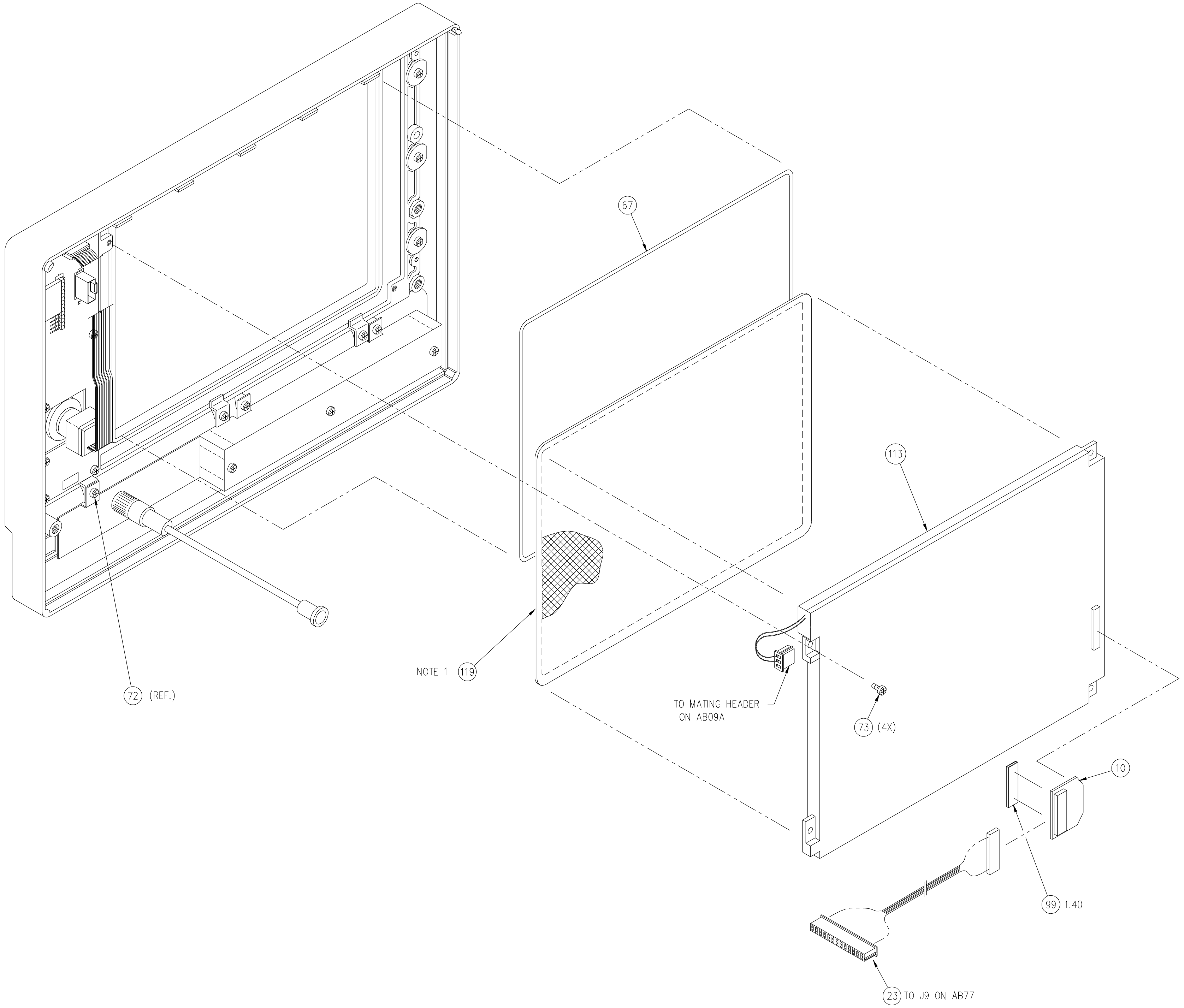
←INCHES→ THIRD ANGLE PROJECTION

DO NOT SCALE THIS DRAWING !!!

INVIVO
RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
ASSY: 3155A
MILLENNIA REMOTE MONITOR, AGENTS

CAD SCALE	SHEET	DWG. NO.	REV.
.75 : 1	5 of 10	197C598	N


67
113
NOTE 1 119
72 (REF.)
TO MATING HEADER
ON AB09A
73 (4X)
10
99 1.40
23 TO J9 ON AB77

NOTE:

1. RECESSED EDGE TO BE PLACED AGAINST P/N H122 GASKET (ITEM 67).

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± ——
.XXX = ± ——
ANGLES = ± ——

DRAWN	KCO	11JAN00
DESIGNED	RLM	7JAN00
CHECKED		
APPROVED		

INCHES

THIRD ANGLE PROJECTION

DO NOT SCALE THIS DRAWING !!!

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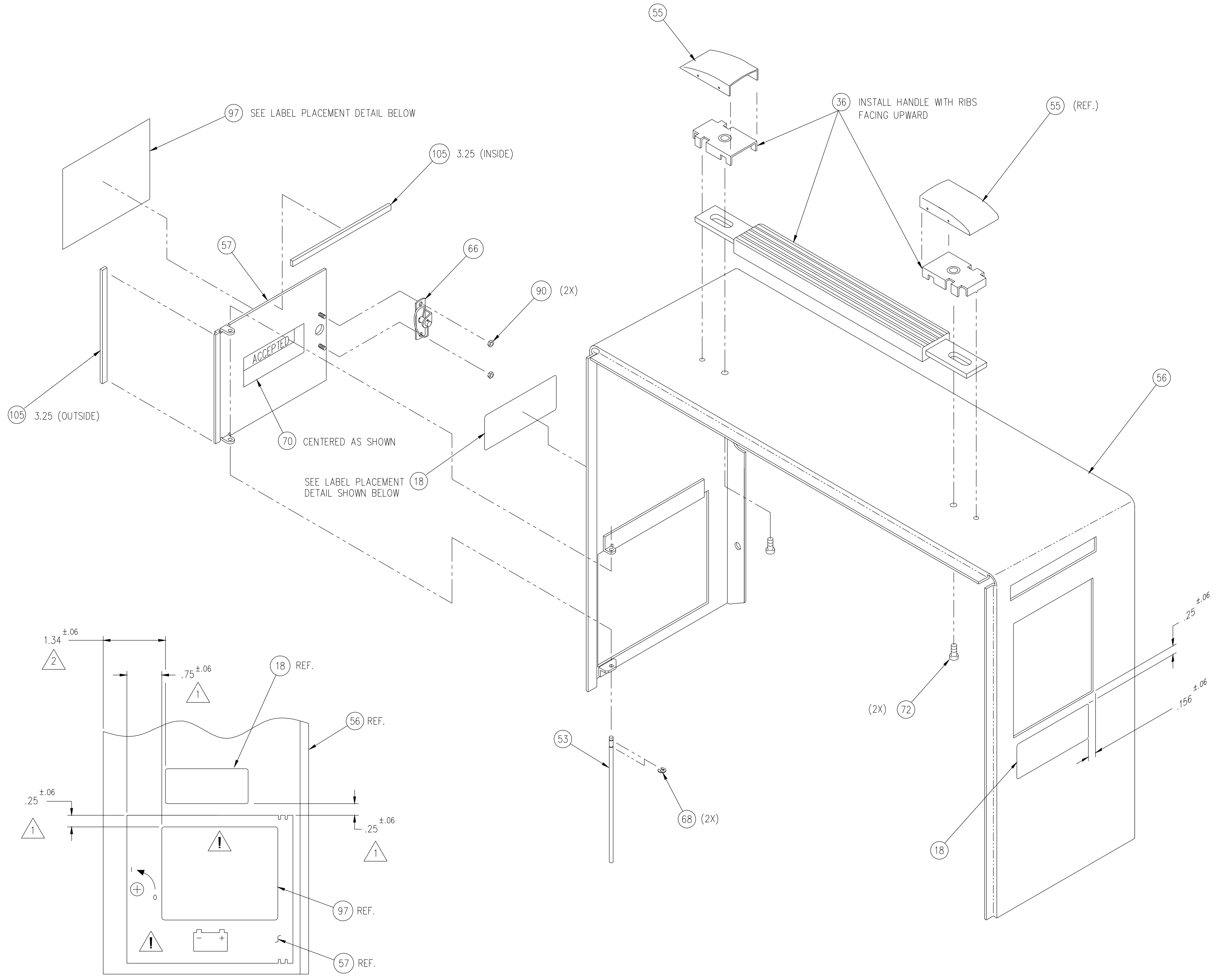
RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
ASSY: 3155A
MILLENNIA REMOTE MONITOR, AGENTS

CAD SCALE	SHEET	DWG. NO.	REV.
.75 : 1	6 OF 10	197C598	N


55
36 INSTALL HANDLE WITH RIBS FACING UPWARD
55 (REF.)
97 SEE LABEL PLACEMENT DETAIL BELOW
105 3.25 (INSIDE)
57
66
90 (2X)
ACCEPTED
105 3.25 (OUTSIDE)
70 CENTERED AS SHOWN
SEE LABEL PLACEMENT DETAIL SHOWN BELOW 18
56
.25 ±.06
.156 ±.06
(2X) 72
53
68 (2X)
18
1.34 ±.06
2
.75 ±.06
1
18 REF.
56 REF.
.25 ±.06
1
.25 ±.06
1
97 REF.
57 REF.

LABEL PLACEMENT DETAIL

△1 DIMENSIONS ARE FROM EDGES OF P/N HM50W BATTERY DOOR (ITEM 57).

△2 DIMENSION IS FROM EDGE OF P/N HM50T COVER (ITEM 56).

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UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± ——
.XXX = ± ——
ANGLES = ± ——

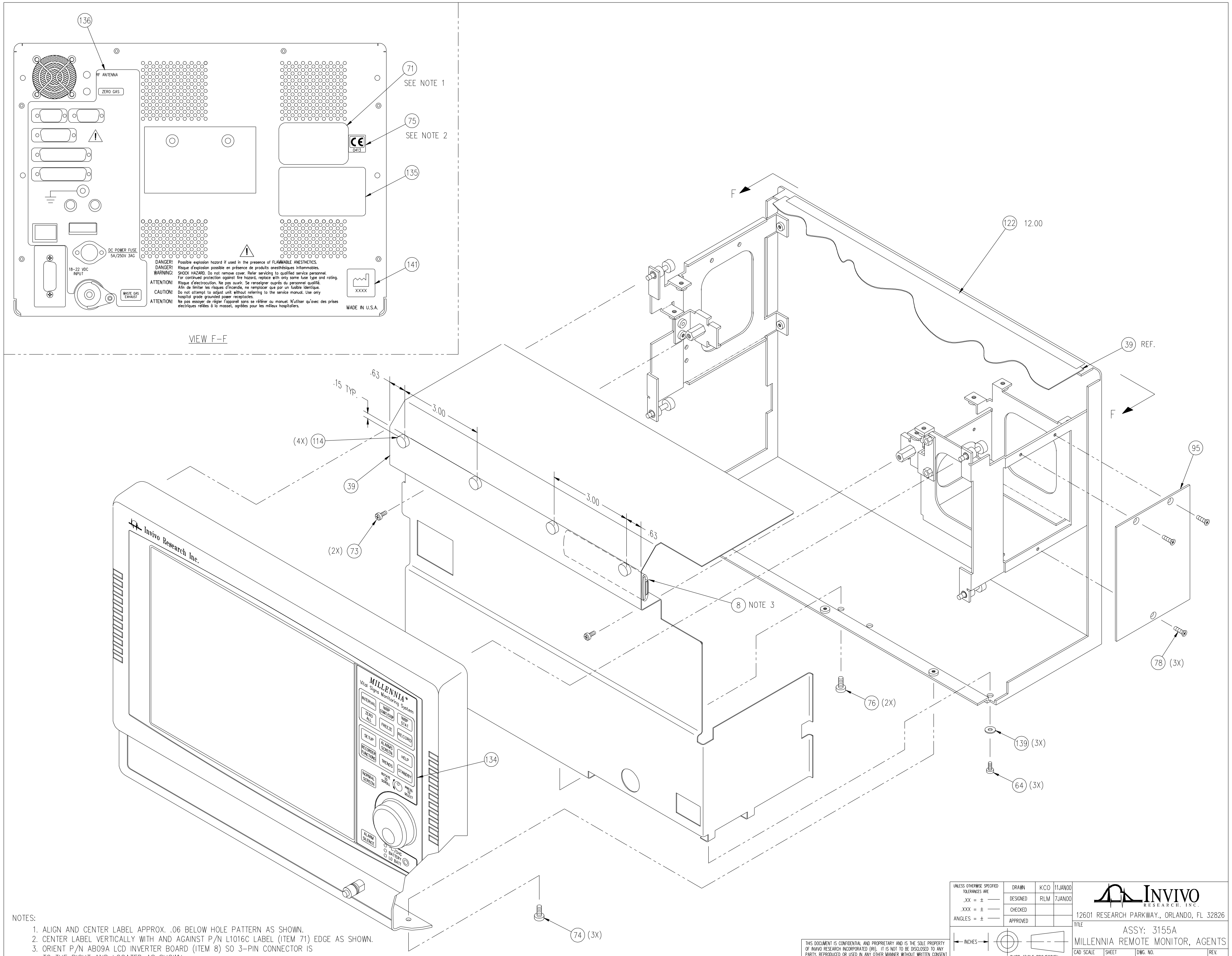
DRAWN	KCO	11JAN00
DESIGNED	RLM	7JAN00
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
DO NOT SCALE THIS DRAWING !!!

INVIVO
RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
ASSY: 3155A
MILLENNIA REMOTE MONITOR, AGENTS

CAD SCALE	SHEET	DWG. NO.	REV.
.75 : 1	7 of 10	197C598	N


136
RF ANTENNA
ZERO GAS
71
SEE NOTE 1
75
SEE NOTE 2
CE
0413
135
DC POWER FUSE
5A/250V 3AG
18-22 VDC
INPUT
WASTE GAS
EXHAUST
DANGER! Possible explosion hazard if used in the presence of FLAMMABLE ANESTHETICS.
DANGER! Risque d'explosion possible en présence de produits anesthésiques inflammables.
WARNING! SHOCK HAZARD. Do not remove cover. Refer servicing to qualified service personnel.
For continued protection against fire hazard, replace with only same fuse type and rating.
ATTENTION! Risque d'electrocution. Ne pas ouvrir. Se renseigner auprés du personnel qualifié.
Afin de limiter les risques d'incendie, ne remplacer que par un fusible identique.
CAUTION! Do not attempt to adjust unit without referring to the service manual. Use only
hospital grade grounded power receptacles.
ATTENTION! Ne pas essayer de régler l'appareil sans se référer au manuel. N'utilser qu'avec des prises
electriques reliées à la masset, agréées pour les milieux hospitaliers.
141
XXXX
MADE IN U.S.A.
VIEW F-F
F
122 12.00
39 REF.
F
.63
.15 TYP.
3.00
(4X) 114
39
3.00
.63
(2X) 73
8 NOTE 3
95
78 (3X)
76 (2X)
139 (3X)
64 (3X)
Invivo Research Inc.
MILLENNIA
Vital Signs Monitoring System
134
74 (3X)

NOTES:

1. ALIGN AND CENTER LABEL APPROX. .06 BELOW HOLE PATTERN AS SHOWN.
2. CENTER LABEL VERTICALLY WITH AND AGAINST P/N L1016C LABEL (ITEM 71) EDGE AS SHOWN.
3. ORIENT P/N AB09A LCD INVERTER BOARD (ITEM 8) SO 3-PIN CONNECTOR IS TO THE RIGHT AND LOCATED AS SHOWN.

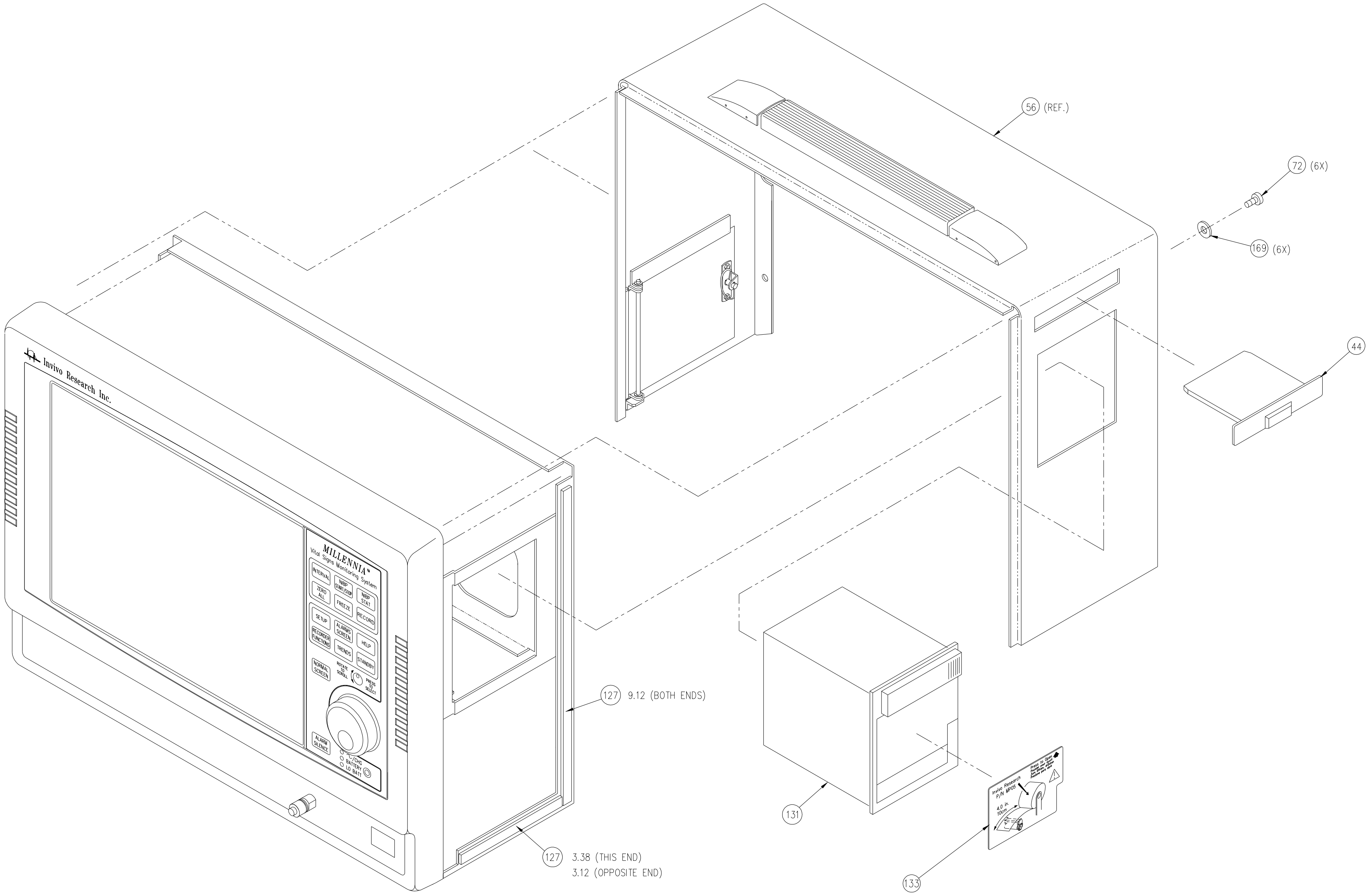
UNLESS OTHERWISE SPECIFIED TOLERANCES ARE .XX = ± —— .XXX = ± —— ANGLES = ± ——	DRAWN	KCO	11JAN00
	DESIGNED	RLM	7JAN00
	CHECKED		
	APPROVED		

INCHES
THIRD ANGLE PROJECTION
DO NOT SCALE THIS DRAWING !!!

INVIVO
RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
ASSY: 3155A
MILLENNIA REMOTE MONITOR, AGENTS

CAD SCALE	SHEET	DWG. NO.	REV.
.75 : 1	8 of 10	197C598	N


56 (REF.)
72 (6X)
169 (6X)
44
Invivo Research Inc.
MILLENNIA
Vital Signs Monitoring System
127 9.12 (BOTH ENDS)
127 3.38 (THIS END)
3.12 (OPPOSITE END)
131
133

UNLESS OTHERWISE SPECIFIED
TOLERANCES ARE
.XX = ± ——
.XXX = ± ——
ANGLES = ± ——

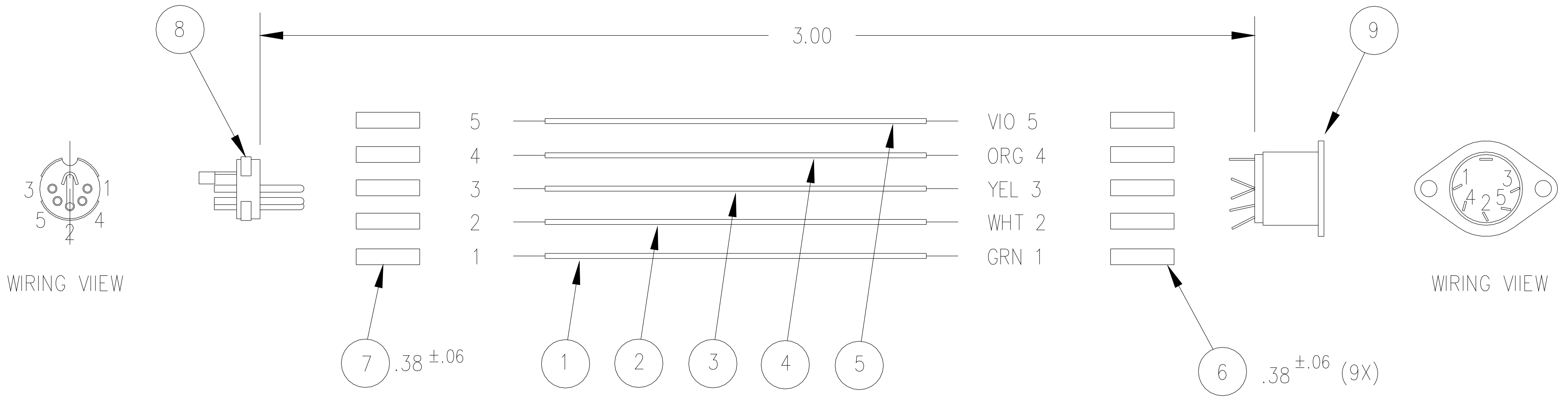
DRAWN	KCO	11JAN00
DESIGNED	RLM	7JAN00
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
DO NOT SCALE THIS DRAWING !!!

INVIVO
RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
ASSY: 3155A
MILLENNIA REMOTE MONITOR, AGENTS

CAD SCALE	SHEET	DWG. NO.	REV.
.75 : 1	9 of 10	197C598	N



NOTES

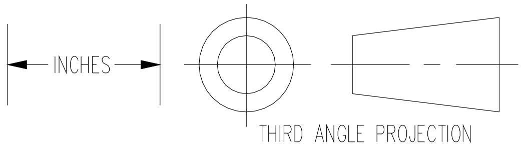
1. DISASSEMBLE P/N PA299 PLUG CONNECTOR (ITEM 8) SALVAGING THE INSERT W/PINS, DISCARDING BACKSHELL AND STRAIN RELIEF
2. STRIP AND TIN WIRES .125 ON ONE END, STRIP AND TIN .250 ON THE OTHER END.
3. J-HOOK .250 WIRE ENDS AND SOLDER TO P/N PA297 RECEPTACLE TERMINALS (ITEM 9) ENSURING CORRECT WIRE-TO-PIN NUMBER MATING AS INDICATED
4. SLIDE TWO .38±.06 LENGTHS OF P/N WT04 HEAT SHRINK (ITEM 6) ONTO EACH WIRE, EXCEPT USE P/N WT01 (ITEM 7) ON LEFT END OF WHITE WIRE
5. SOLDER WIRES TO P/N PA299 PLUG INSERT (ITEM 8)
6. ROUTE TO INSPECTION
7. SHRINK HEAT SHRINK OVER RECEPTACLE AND PLUG TERMINALS
8. ROUTE TO INSPECTION

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
9	PA297	1	CONN, 5P-180, RECEPT, CIRCULAR DIN
8	PA299	1	CONN, 5P-180, PLUG, CIRCULAR DIN
7	WT01	.38	HEAT SHRINK, 3/4" ID BLACK
6	WT04	3.75	HEAT SHRINK, 3/32" ID BLACK
5	W048	3.25	WIRE, 26 GAGE 19 X 38 VIOLET UL-1429
4	W036	3.25	WIRE, 26 GAGE 19 X 38 ORANGE UL-1429
3	W037	3.25	WIRE, 26 GAGE 19 X 38 YELLOW UL-1429
2	W030	3.25	WIRE, 26 GAGE 19 X 38 WHITE UL-1429
1	W039	3.25	WIRE, 26 GAGE 19 X 38 GREEN UL-1429

REV.	DESCRIPTION	BY	DATE
C	PER ECN #5514	SR	4FEB97
B	PER ECN #5398	CHY	21NOV96
A	RELEASE, ECN #4571	SR	10/13/95

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .25
.XXX = ± .015
ANGLES = ± —

DRAWN	SR	10/4/95
DESIGNED	RS	9/28/95
CHECKED		
APPROVED		



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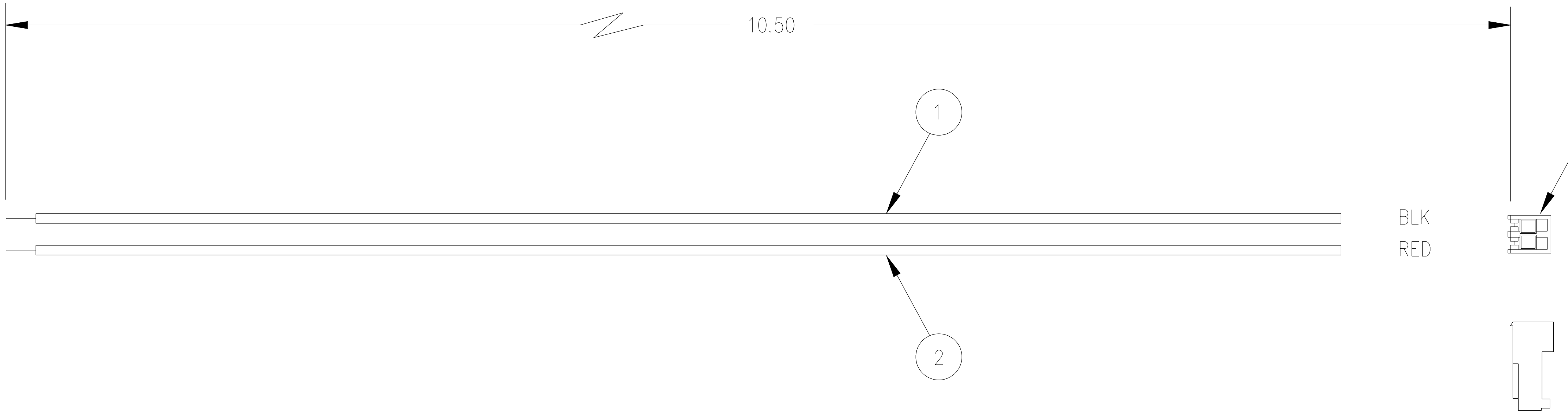
PRECISION BIOMEDICAL INSTRUMENTS
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
CABLE ASSEMBLY: AC266
CABLE, KEYBOARD, 3500

CAD SCALE	SHEET	DWG. NO.	REV.
NONE	1 OF 1	C59B195	C



NOTES

1. STRIP AND TIN .250, ONE END OF EACH WIRE (ITEMS 1 & 2).
2. CRIMP WIRES INTO HOUSING, POSITIONED AS SHOWN.
3. INSPECT BOTH CRIMPS, ENSURING THAT THE WIRE INSULATION IS CENTRALLY LOCATED IN THE TERMINAL AND THAT BOTH SIDES OF THE TERMINAL ARE VISIBLE ABOVE THE WIRE INSULATION. FURTHER COMPARE THE CRIMPS TO SEE THAT THEY APPEAR TO BE THE SAME.
4. ROUTE TO INSPECTION.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
3	PA253A	1	HOUSING, FRICTION LOCK, SR, 2 PIN (.156)
2	W022	11.00	WIRE, 18 GAGE 19 X 30 RED UL-1430
1	W017	11.00	XWIRE, 18 GAGE 19 X 30 BLACK UL-1430

REV.	DESCRIPTION	BY	DATE
D	PER ECN #8894	CHY	21AUG02
C	PER ECN #5654	CHY	9APR97
B	PER ECN #5320	SR	26NOV96
A	RELEASE, ECN #4571	SR	10/13/95

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .25
.XXX = ± .015
ANGLES = ± —

DRAWN	SR	10/5/95
DESIGNED	RS	9/28/95
CHECKED		
APPROVED		

INCHES

THIRD ANGLE PROJECTION

DO NOT SCALE THIS DRAWING !!!

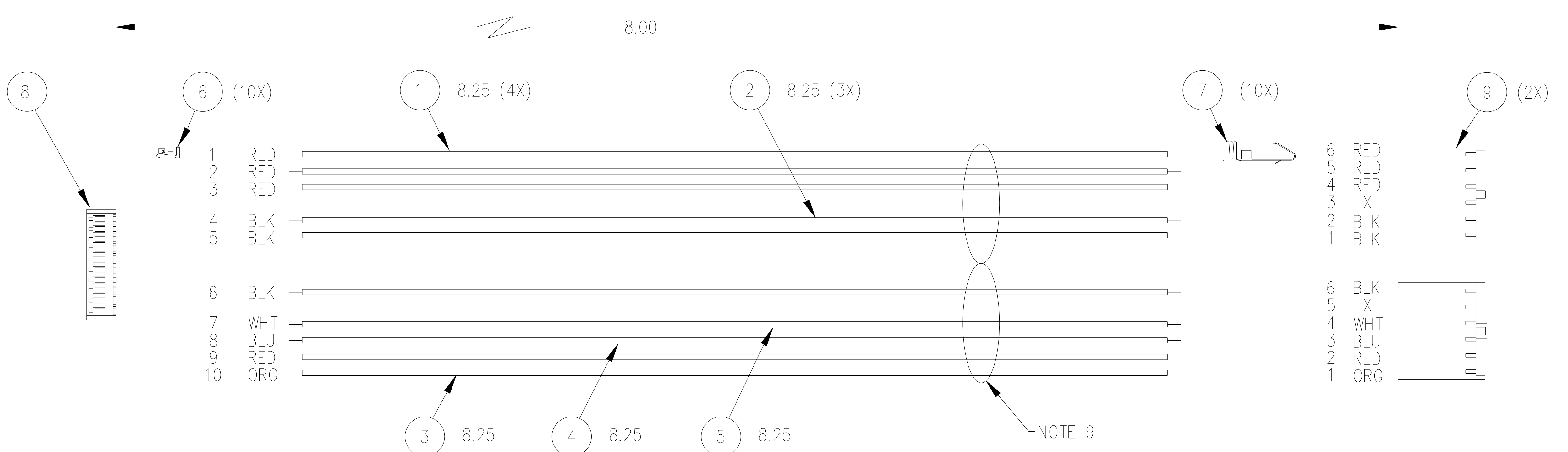
INVIVO
RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE: CABLE ASSEMBLY: AC267
CABLE, BATTERY, 3500

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
NONE	1 OF 1	C59B196	D

ECN8242

LF19 REV. B


8.00
8
6 (10X)
1 8.25 (4X)
2 8.25 (3X)
7 (10X)
9 (2X)
1 RED
2 RED
3 RED
4 BLK
5 BLK
6 BLK
7 WHT
8 BLU
9 RED
10 ORG
6 RED
5 RED
4 RED
3 X
2 BLK
1 BLK
6 BLK
5 X
4 WHT
3 BLU
2 RED
1 ORG
3 8.25
4 8.25
5 8.25
NOTE 9

NOTES

1. CUT WIRES (ITEMS 1-5) TO 8.25 LENGTH.
2. STRIP WIRES .078 ON ONE END AND .125 ON THE OPPOSITE END.
3. CRIMP TERMINALS (ITEM 6) ONTO .078 STRIPPED WIRE ENDS.
4. CRIMP TERMINALS (ITEM 7) ONTO .125 STRIPPED WIRE ENDS.
5. ROUTE TO INSPECTION.
6. INSERT TERMINATED WIRES INTO HOUSING (ITEM 8) ENSURING CORRECT WIRE-TO-PIN NUMBER MATING AS INDICATED.
7. INSERT TERMINATED WIRES INTO HOUSING (ITEM 9) ENSURING WIRES ARE POSITIONED IN HOUSINGS AS SHOWN.
8. ROUTE TO INSPECTION.
9. TWIST CABLE APPROXIMATELY TWO TURNS PER INCH.

9	PA295A	2	CONN, 6P, SR, RECPT, .156 CTRS, PWR RECPT.
8	PA272A	1	CONN, 10P, SR, SOCKET, .098 CTRS.
7	PT37	10	TERMINAL CRIMP, POSTLATCH, 18-22AWG
6	PT33	10	TERMINAL, 20-32 AWG, JST
5	W032	8.50	WIRE, 22 GAGE 19 X 34 WHITE UL-1429
4	W010	8.50	WIRE, 22 GAGE 19 X 34 BLUE UL-1429
3	W006	8.50	WIRE, 22 GAGE 19 X 34 ORANGE UL-1429
2	W005	25.50	WIRE, 22 GAGE 19 X 34 BLACK UL-1429
1	W009	34.00	WIRE, 22 GAGE 19 X 34 RED UL-1429
ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION

B	PER ECN NO. 4741	CHY	1/15/96
A	RELEASE, ECN #4571	SR	10/13/95
REV.	DESCRIPTION	BY	DATE

UNLESS OTHERWISE SPECIFIED
TOLERANCES ARE
.XX = ± .25
.XXX = ± .015
ANGLES = ± ——

DRAWN	SR	10/9/95
DESIGNED	RS	9/28/95
CHECKED		
APPROVED		

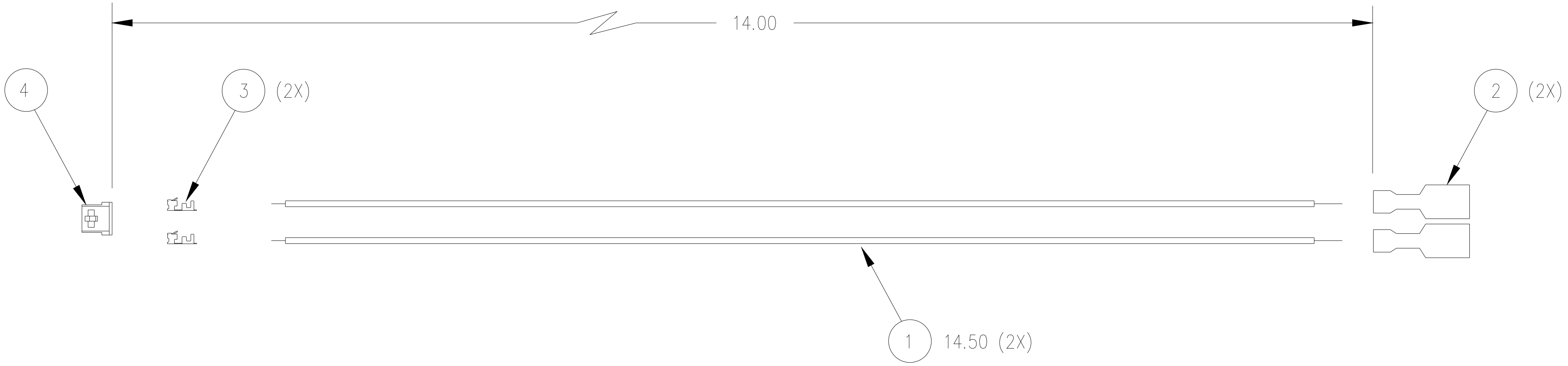
INCHES
THIRD ANGLE PROJECTION

DO NOT SCALE THIS DRAWING !!!

Invivo Research Inc.
PRECISION BIOMEDICAL INSTRUMENTS
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
CABLE ASSEMBLY: AC269
CABLE, MOTHER BOARD POWER, 3500

CAD SCALE	SHEET	DWG. NO.	REV.
NONE	1 OF 1	C59B198	B



NOTES

1. CUT WIRE (ITEM 1) TO 14.50 LENGTH.
2. STRIP WIRES .078 ON ONE END AND .250 ON THE OPPOSITE END.
3. CRIMP TERMINALS (ITEM 2) ONTO .250 STRIPPED ENDS.
4. CRIMP TERMINALS (ITEM 3) ONTO OPPOSITE END.
5. ROUTE TO INSPECTION.
6. INSERT TERMINATED WIRES INTO HOUSING (ITEM 4).
7. TWIST WIRES APPROXIMATELY TWO TURNS PER INCH.

4	PA195	1	CONN, 2P, SR, HSG, ST, .098 CTRS.
3	PT28	2	TERMINAL, RECPT, LOOSE
2	PT04	2	TERMINAL, RECPT., 2-520193-2
1	W008	29.00	WIRE, 22 GAGE 19 X 34 VIOLET UL-1429
ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION

A	RELEASE, ECN #4571	SR	10/13/95
REV.	DESCRIPTION	BY	DATE

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UNLESS OTHERWISE SPECIFIED
TOLERANCES ARE
.XX = ± .25
.XXX = ± .015
ANGLES = ± ——

DRAWN	SR	10/5/95
DESIGNED	RS	9/28/95
CHECKED		
APPROVED		

INCHES

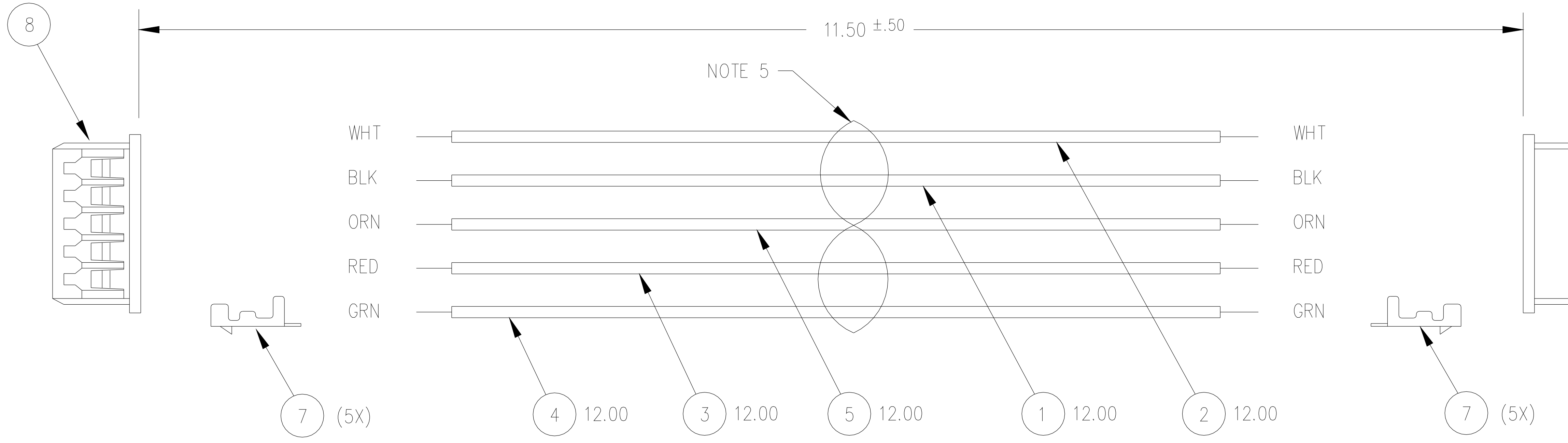
THIRD ANGLE PROJECTION

DO NOT SCALE THIS DRAWING !!!

Invivo Research Inc.
PRECISION BIOMEDICAL INSTRUMENTS
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
CABLE ASSEMBLY: AC270
CABLE, FRONT SWITCH POWER, 3500

CAD SCALE	SHEET	DWG. NO.	REV.
NONE	1 OF 1	C59B200	A



NOTES:

1. CUT W069, W072, W073, W074 AND W077 WIRES (ITEMS 1-5) 12.00 LONG
2. STRIP WIRES ON BOTH ENDS PER AI046 FOR PT35 CONTACTS
3. CRIMP PT35 CONTACTS (ITEM 7) ONTO WIRE ENDS
4. ROUTE TO INSPECTION
5. TWIST WIRES APPROXIMATELY 1-2 TURNS PER INCH, THEN INSERT THRU WT01 HEAT SHRINK TUBING (ITEM 6)
6. INSERT CONTACTS INTO PA287A HOUSING (ITEM 8), BOTH ENDS AS SHOWN
7. CENTER AND SHRINK SLEEVING IN PLACE
8. ROUTE TO INSPECTION

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
8	PA287A	2	CONN, 5P, SR. HSG, .049 CTRS.
7	PT35	10	CONTACT, CRIMP SOCKET, 26-32 AWG.
6	WT01	11.00	HEAT SHRINK, 1/8 I.D., BLACK
5	W077	12.00	WIRE, 28 GA., 7/36, ORN., UL-1429
4	W074	12.00	WIRE, 28 GA., 7/36, GRN., UL-1429
3	W073	12.00	WIRE, 28 GA., 7/36, RED, UL-1429
2	W072	12.00	WIRE, 28 GA., 7/36, WHT., UL-1429
1	W069	12.00	WIRE, 28 GA., 7/36, BLK., UL-1429

REV.	DESCRIPTION	BY	DATE
E	PER ECN #6131	CHY	10NOV97
D	PER ECN #5852	CHY	1AUG97
C	PER ECN #5733	CHY	17JUN97
B	PER ECN #4964	CHY	5/28/96
A	RELEASE, ECN #4571	SR	10/13/95

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .25
.XXX = ± .015
ANGLES = ± —

DRAWN	SR	10/5/95
DESIGNED	RS	9/28/95
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
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Invivo Research Inc.
PRECISION BIOMEDICAL INSTRUMENTS
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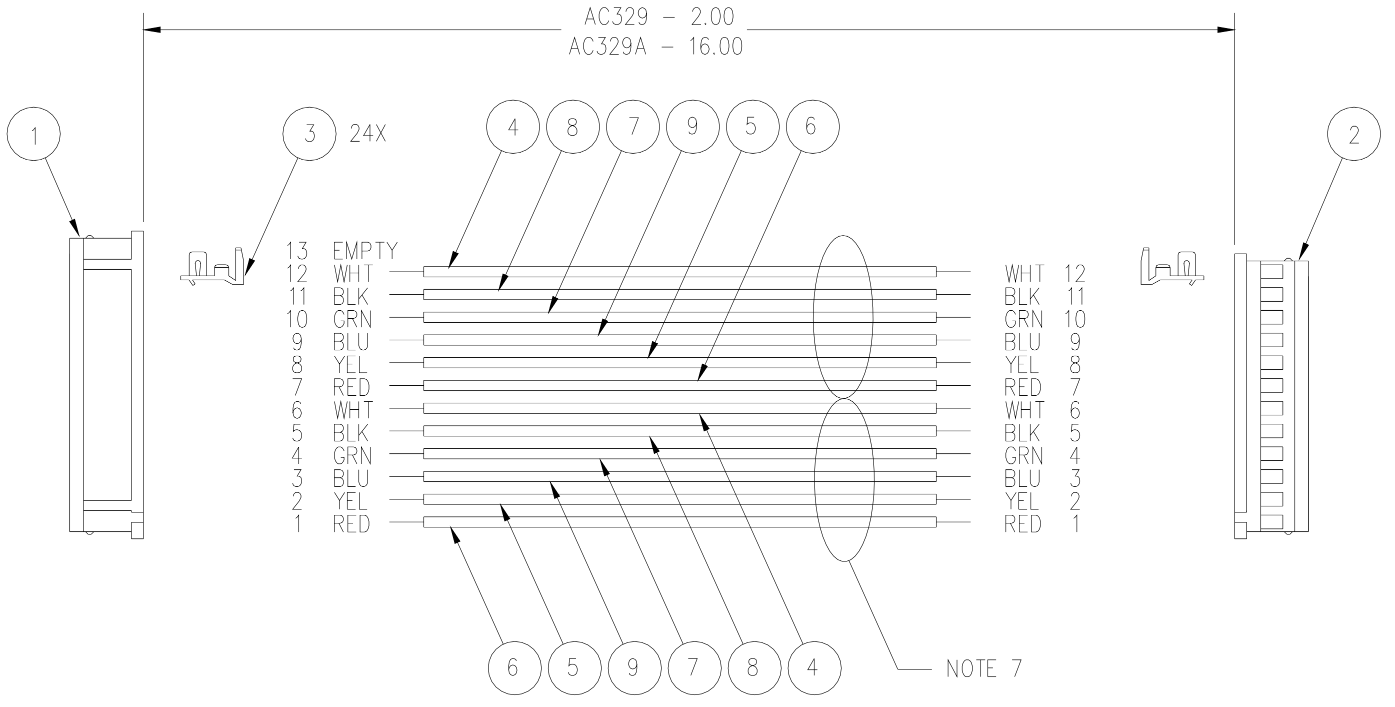
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE: ASSEMBLY: AC261
CABLE, XENTEK INVERTER/VGA, 3500

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
NONE	1 OF 1	C59B202	E


AC329 – 2.00
AC329A – 16.00
1
3 24X
4
8
7
9
5
6
2
13 EMPTY
12 WHT
11 BLK
10 GRN
9 BLU
8 YEL
7 RED
6 WHT
5 BLK
4 GRN
3 BLU
2 YEL
1 RED
WHT 12
BLK 11
GRN 10
BLU 9
YEL 8
RED 7
WHT 6
BLK 5
GRN 4
BLU 3
YEL 2
RED 1
6
5
9
7
8
4
NOTE 7

WIRE QUANTITY CHART		
	AC329	AC329A
PART NO.	QTY.	QTY.
W049	4.50	32.50
W047	4.50	32.50
W039	4.50	32.50
W038	4.50	32.50
W037	4.50	32.50
W030	4.50	32.50

NOTES:

1. CUT WIRES (ITEMS 4–9) TO 2.25 FOR AC329 OR 16.25 FOR AC329A.
2. STRIP WIRE .080 ON EACH END.
3. CRIMP PT48 TERMINAL (ITEM 3) ON EACH END.
4. ROUTE TO INSPECTION.
5. PLACE TERMINATED ENDS INTO PA349A HOUSING (ITEM 1) AND PA346A (ITEM 2) AS SHOWN.
6. ROUTE TO INSPECTION.
7. TWIST 1–2 TURNS PER INCH.
8. ROUTE TO INSPECTION.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
9	W049	SEE CHART	26 GAGE, 19 X 38 BLUE UL–1429
8	W047	SEE CHART	26 GAGE, 19 X 38 BLACK UL–1429
7	W039	SEE CHART	26 GAGE, 19 X 38 GREEN UL–1429
6	W038	SEE CHART	26 GAGE, 19 X 38 RED UL–1429
5	W037	SEE CHART	26 GAGE, 19 X 38 YELLOW UL–1429
4	W030	SEE CHART	26 GAGE, 19 X 38 WHITE UL–1429
3	PT48	24	CONTACT, CRIMP SOCKET, 24–28 AWG
2	PA349A	1	CONN, 12P, SR. HSG, .079 CTRS.
1	PA346A	1	CONN, 13P, SR. HSG, .079 CTRS.

REV.	DESCRIPTION	BY	DATE
A	RELEASED, ECN #5487	SR	21FEB97

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.XX = ± .25
.XXX = ± .015
ANGLES = ± ——

DRAWN	JRB	27JAN97
DESIGNED	JRB	27JAN97
CHECKED		
APPROVED		

INCHES

THIRD ANGLE PROJECTION

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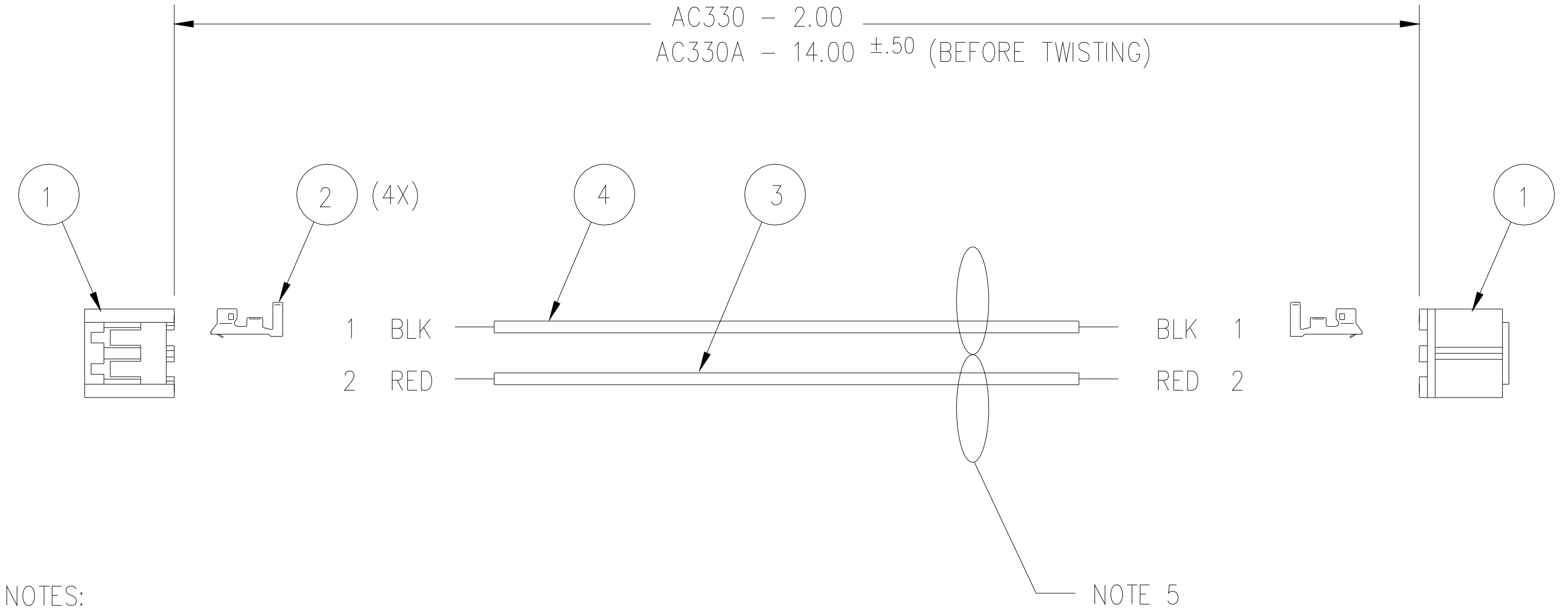
12601 RESEARCH PARKWAY, ORLANDO, FL 32826

TITLE
ASSEMBLY: AC329, AC329A
CAB, DATA, TRANSCEIVER, TELEMETRY

CAD SCALE	SHEET	DWG. NO.	REV.
2:1	1 OF 1	C59B322	A



WIRE QUANTITY CHART		
	AC330	AC330A
PART NO.	QTY.	QTY.
W047	2.25	14.25
W038	2.25	14.25

NOTES:

1. CUT WIRES (ITEMS 3 & 4) PER CHART
2. STRIP WIRE .093 ON EACH END.
3. CRIMP PT33 TERMINAL (ITEM 2) ON EACH END.
4. ROUTE TO INSPECTION.
5. TWIST 1–2 TURNS PER INCH.
6. PLACE TERMINATED ENDS INTO PA348A HOUSINGS (ITEM 1) AS SHOWN.
7. ROUTE TO INSPECTION.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
4	W047	SEE CHART	26 GAGE, 19 X 38 BLACK UL-1429
3	W038	SEE CHART	26 GAGE, 19 X 38 RED UL-1429
2	PT33	4	CONTACT, CRIMP SOCKET, 22-30 AWG
1	PA348A	2	CONN, 2P, SR. HSG, .098 CTRS.

REV.	DESCRIPTION	BY	DATE
B	PER ECN #5736	CHY	19MAY97
A	RELEASED, ECN #5487	SR	21FEB97

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.XX = ± .25
.XXX = ± .015
ANGLES = ± ——

DRAWN	SR	17FEB97
DESIGNED	DS	14FEB97
CHECKED		
APPROVED		

INCHES

THIRD ANGLE PROJECTION

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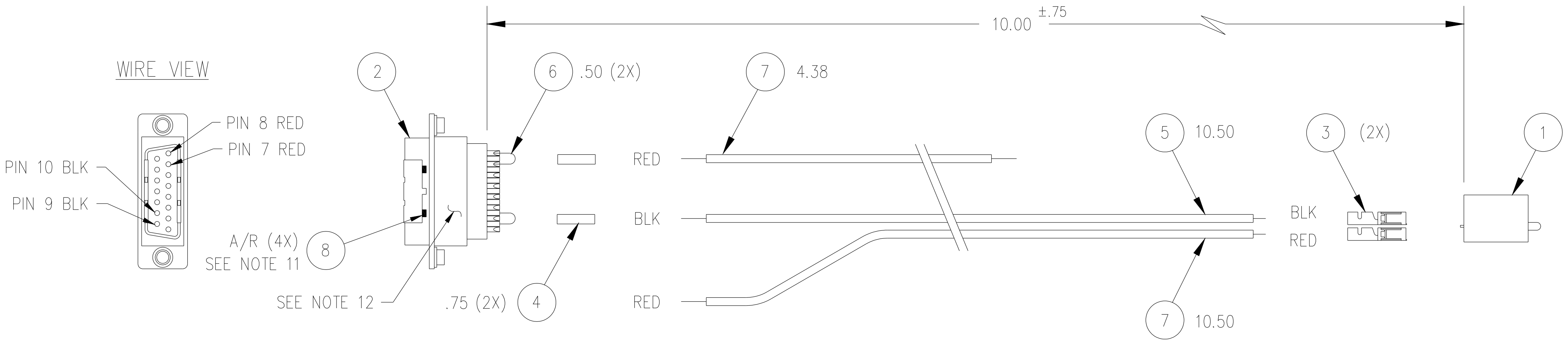
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE:
ASSEMBLY: AC330, AC330A
CAB, POWER, TRANSCEIVER, TELEMETRY

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
2:1	1 OF 1	C59B323	B



NOTES:

1. CUT ONE P/N W022 RED WIRE (ITEM 7) TO 4.38 LENGTH.
2. CUT ONE EACH P/N W017 BLACK WIRE (ITEM 5) AND RED WIRE (ITEM 7) TO 10.50 LENGTH.
3. STRIP AND TIN .38 BOTH ENDS OF THE 4.38 RED WIRE.
4. STRIP 10.50 RED AND BLACK WIRES .125 ON ONE END, STRIP AND TIN .38 ON THE OTHER END.
5. CRIMP P/N PT09 TERMINALS (ITEM 3) ONTO UNTINNED WIRE ENDS.
6. CUT TWO PIECES OF P/N W019 BUSS WIRE (ITEM 6) .50 LONG AND MAKE JUMPER LOOP BETWEEN PINS 7 & 8 AND PINS 9 & 10 ON P/N PA374 CONNECTOR (ITEM 2) AS SHOWN.
7. J-HOOK AND SOLDER ONE TINNED END OF THE 4.38 RED WIRE AND BLACK WIRE TO THE JUMPERS OF THE CONNECTOR (ITEM 2), POSITION AS INDICATED.
8. ROUTE TO INSPECTION.
9. SLIDE .75 PIECE OF P/N WT05 HEAT SHRINK (ITEM 4) OVER SOLDER JOINTS AND SHRINK.
10. INSERT TERMINALS INTO P/N PA26 HOUSING (ITEM 1) AS SHOWN, ENSURING CORRECT WIRE TO PIN MATING.
11. ADD A SMALL DROP OF P/N M020 ADHESIVE (ITEM 8) AT EACH SLIT TO SECURE CONNECTOR GROUNDING CLIPS. USE P/N M019 ACCELERATOR (ITEM 9).
12. USING INDELIBLE INK, PRINT ASSEMBLY NUMBER, REVISION, LOT NUMBER AND ASSEMBLER INITIALS IN AREA SHOWN.
13. ROUTE TO INSPECTION.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
9	M019	A/R	ACCELERATOR, TAKPAK, LOCTITE, 710
8	M020	A/R	ADHESIVE, LOCTITE TOUGHENED, 411
7	W022	14.88	WIRE, 18 GAGE 19 X 30 RED UL-1430
6	W019	1.00	WIRE, BUSS, SOFT DRAWN, 24 GAGE
5	W017	10.50	WIRE, 18 GAGE 19 X 30 BLK UL-1430
4	WT05	1.50	HEAT SHRINK, 3/16 ID, BLACK
3	PT09	2	TERMINAL, RECEPT, REEL 102100-6
2	PA374	1	CONN, DB15, FLTR., MALE, SLDR. CUP, 2500pF
1	PA26	1	HOUSING, SR, 3 PIN (.156)

REV.	DESCRIPTION	BY	DATE
D	PER ECN #7894	CHY	1MAY01
C	PER ECN #7329	SR	24AUG99
B	PER ECN #6397M	CHY	20FEB98
A	RELEASED, ECN #6226	SR	5DEC97

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .25
.XXX = ± .015
ANGLES = ± ——

DRAWN	SR	3DEC97
DESIGNED	JB	2DEC97
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
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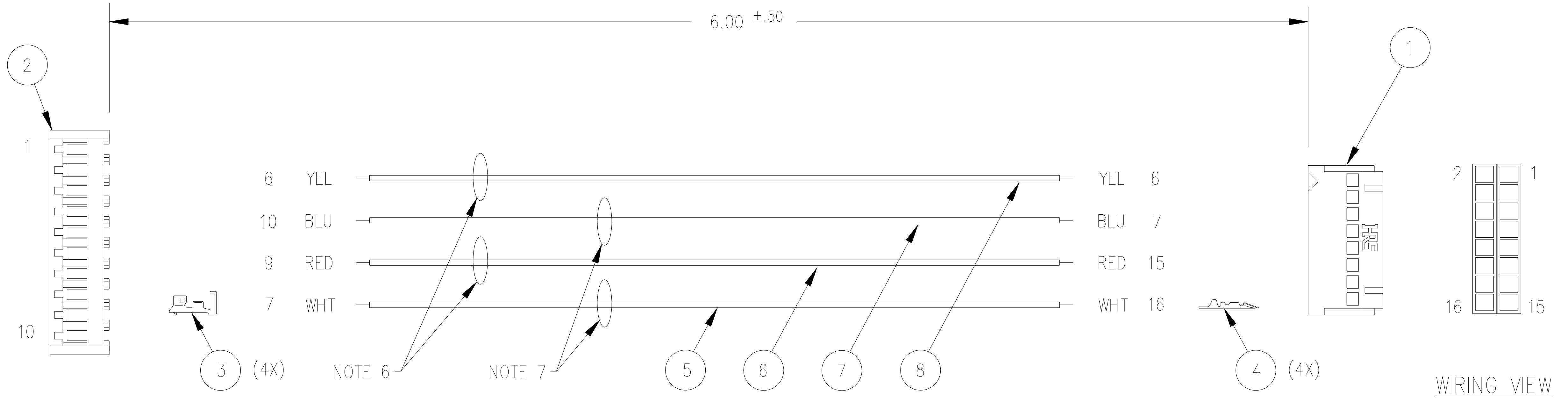
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE:
CABLE ASSEMBLY: AC355
CAB, LOW VOLTAGE DC POWER, 3155

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
NONE	1 OF 1	C59B345	D

ECN5877

LF19 REV. A



NOTES:

1. CUT WIRES (ITEMS 5–8) TO 6.75 LENGTH.
2. STRIP WIRES ON ONE END FOR P/N PT33 CONTACTS (ITEM 3) AND THE OPPOSITE END FOR P/N PT34 CONTACTS (ITEM 4) PER AI046.
3. CRIMP P/N PT33 AND P/N PT34 CONTACTS ONTO APPROPRIATE ENDS OF EACH WIRE.
4. ROUTE TO INSPECTION.
5. INSERT CONTACTS INTO P/N PA271A HOUSING (ITEM 1) AS SHOWN, ENSURING CORRECT WIRE TO PIN MATING AS INDICATED.
6. TWIST YELLOW AND RED WIRES TOGETHER APPROXIMATELY FOUR TURNS PER INCH.
7. TWIST BLUE AND WHITE WIRES TOGETHER APPROXIMATELY FOUR TURNS PER INCH.
8. INSERT CONTACTS INTO P/N PA272A HOUSING (ITEM 2) AS SHOWN, ENSURING CORRECT WIRE TO PIN MATING AS INDICATED.
9. ROUTE TO INSPECTION.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
8	W078	6.75	WIRE, 28 GA, 7/36, YEL, UL–1429
7	W076	6.75	WIRE, 28 GA, 7/36, BLU, UL–1429
6	W073	6.75	WIRE, 28 GA, 7/36, RED, UL–1429
5	W072	6.75	WIRE, 28 GA, 7/36, WHT, UL–1429
4	PT34	4	CONTACT, CRIMP SOCKET, 24–28 AWG
3	PT33	4	CONTACT, CRIMP SOCKET, 22–30 AWG
2	PA272A	1	CONN, 10P, SR, SOCKET, .098 CTRS.
1	PA271A	1	CONN, 16P, DR, SOCKET, .079 CTRS

REV.	DESCRIPTION	BY	DATE
A	RELEASED, ECN #6646	SR	1JUN98

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .25
.XXX = ± .015
ANGLES = ± —

DRAWN	SR	1JUN98
DESIGNED	DS	20MAY98
CHECKED		
APPROVED		

INCHES

THIRD ANGLE PROJECTION

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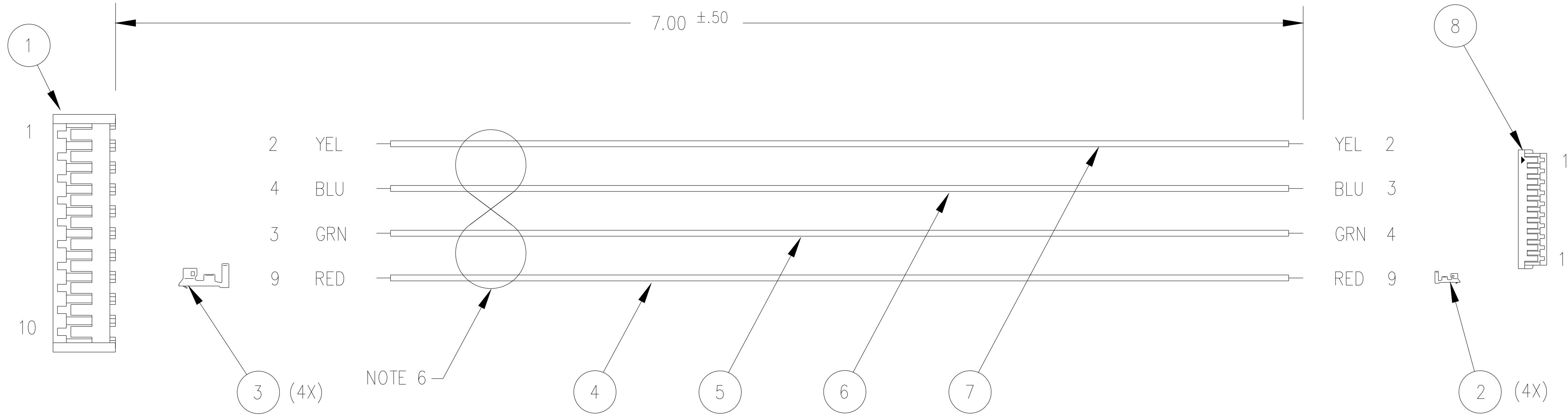
Subsidiary of Invivo Corporation
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE:
CABLE ASSEMBLY: AC362
CABLE, INTRCNCT., POWER SUPPLY, AGENT I.D.

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
NONE	1 OF 1	C59B350	A

ECN5877

LF19 REV. A



NOTES:

1. CUT WIRES (ITEMS 4–7) TO 7.38 LENGTH.
2. STRIP WIRES ON ONE END FOR P/N PT31 CONTACTS (ITEM 2) AND THE OPPOSITE END FOR P/N PT33 CONTACTS (ITEM 3) PER AI046.
3. CRIMP P/N PT31 AND P/N PT33 CONTACTS ONTO APPROPRIATE ENDS OF EACH WIRE.
4. ROUTE TO INSPECTION.
5. INSERT CONTACTS INTO P/N PA272A HOUSING (ITEM 1) AS SHOWN, ENSURING CORRECT WIRE TO PIN MATING AS INDICATED.
6. TWIST WIRES 1 – 2 TURNS PER INCH.
7. INSERT CONTACTS INTO P/N PA264 HOUSING (ITEM 8) AS SHOWN, ENSURING CORRECT WIRE TO PIN MATING AS INDICATED.
8. ROUTE TO INSPECTION.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
8	PA264	1	CONN, 10P,SR. SCKT, .049 PITCH
7	W078	7.38	WIRE, 28 GA, 7/36, YEL, UL–1429
6	W076	7.38	WIRE, 28 GA, 7/36, BLU, UL–1429
5	W074	7.38	WIRE, 28 GA, 7/36, GRN, UL–1429
4	W073	7.38	WIRE, 28 GA, 7/36, RED, UL–1429
3	PT33	4	CONTACT, CRIMP SOCKET, 22–30 AWG
2	PT31	4	CONTACT, CRIMP SOCKET, 26–30 AWG
1	PA272A	1	CONN, 10P, SR, SOCKET, .098 CTRS.

REV.	DESCRIPTION	BY	DATE
A	RELEASED, ECN #7512	KCO	18JAN00

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .25
.XXX = ± .015
ANGLES = ± —

DRAWN	KCO	18JAN00
DESIGNED	RLM	17JAN00
CHECKED		
APPROVED		

INCHES

THIRD ANGLE PROJECTION

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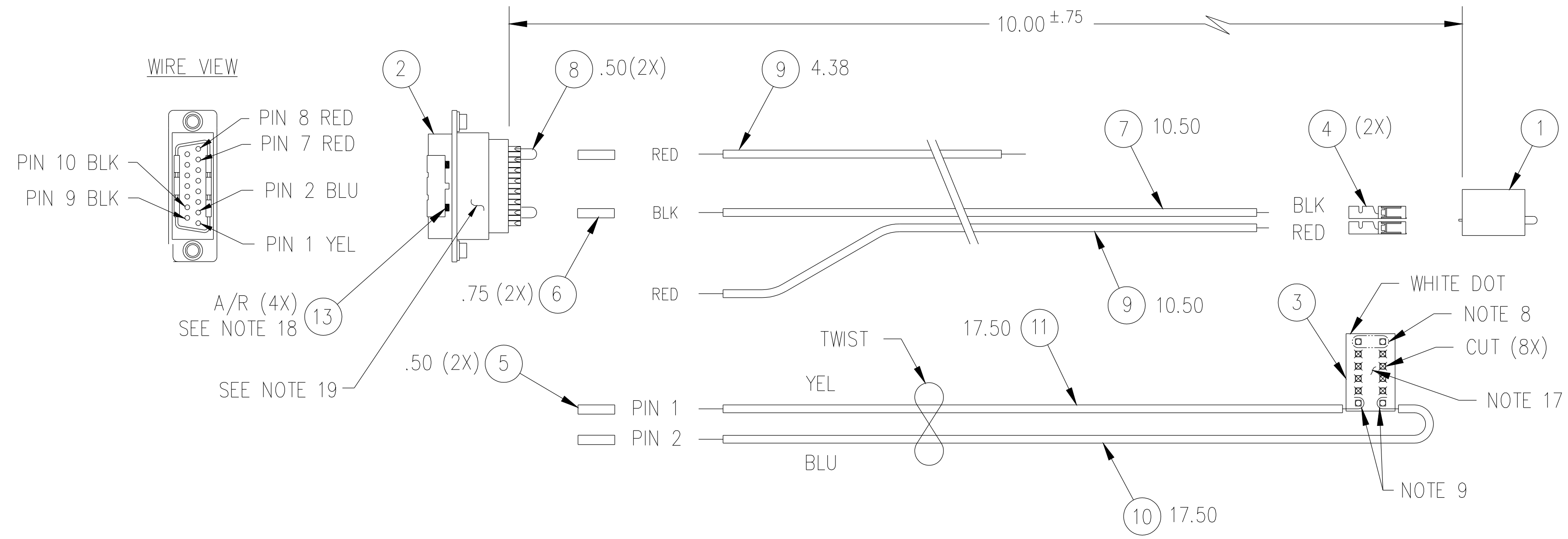
Invivo Research Inc.
PRECISION BIOMEDICAL INSTRUMENTS
Subsidiary of Invivo Corporation
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE: CABLE ASSEMBLY: AC363A
CABLE, INTRCNCT., A/D, AGENT I.D., 3155A

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
NONE	1 OF 1	C59B397	A

ECN5877

LF19 REV. A



NOTES

1. CUT ONE P/N W022 RED WIRE (ITEM 9) TO 4.38 LENGTH.
2. CUT ONE EACH P/N W017 BLACK WIRE (ITEM 7) AND RED WIRE (ITEM 9) TO 10.50 LENGTH.
3. STRIP AND TIN .38 BOTH ENDS OF THE 4.38 WIRE.
4. STRIP 10.50 RED AND BLACK WIRES .125 ON ONE END, STRIP AND TIN .38 ON THE OTHER END.
5. CRIMP P/N PT09 TERMINALS (ITEM 4) ONTO UNTINNED WIRE ENDS.
6. CUT P/N W076 BLUE WIRE (ITEM 10) AND P/N W078 YELLOW WIRE (ITEM 11) TO 17.50. STRIP AND TIN BOTH ENDS .125.
7. PREP P/N PA431 12-PIN SOCKET (ITEM 3) BY CUTTING EIGHT CENTER PINS AS SHOWN.
8. AS VIEWED ON DRAWING, BEND TWO TOP PINS INWARD UNTIL THEY TOUCH. SOLDER THE PINS TOGETHER AND TRIM.
9. CAREFULLY BEND THE BOTTOM TWO PINS OUTWARD ABOUT 30°. J-HOOK AND SOLDER THE BLUE AND YELLOW WIRES TO THE PINS AS SHOWN. TRIM THE TOP OF THE PINS
10. CUT TWO PIECES OF P/N W019 BUSS WIRE (ITEM 8) .50 LONG AND MAKE JUMPER LOOP BETWEEN PINS 7 & 8 AND PINS 9 & 10 ON P/N PA374 CONNECTOR (ITEM 2) AS SHOWN.
11. SLIP .75 LENGTHS OF P/N WT05 HEAT SHRINK (ITEM 6) AND .50 LENGTHS OF P/N WT04 HEAT SHRINK (ITEM 5) OVER WIRES AS SHOWN.
12. J-HOOK AND SOLDER ONE TINNED END OF THE 4.38 RED WIRE AND BLACK WIRE TO THE JUMPERS OF THE CONNECTOR (ITEM 2), POSITION AS INDICATED IN WIRE VIEW.
13. TWIST AND SOLDER YELLOW AND BLUE WIRES TO PA374 CONNECTOR.
14. ROUTE TO INSPECTION.
15. SLIDE HEAT SHRINK OVER SOLDER JOINTS AND SHRINK.
16. INSERT TERMINALS INTO P/N PA26 HOUSING (ITEM 1) AS SHOWN, ENSURING CORRECT WIRE TO PIN MATING.
17. SPREAD P/N M008A SEALANT (ITEM 12) OVER TOP OF PA431 CONNECTOR TO COVER SOLDER JOINTS AND STRESS RELIEVE WIRES. CAPTURE BLUE WIRE IN SEALANT. ALLOW TO CURE.
18. ADD A SMALL DROP OF P/N M020 ADHESIVE (ITEM 13) AT EACH SLIT TO SECURE CONNECTOR GROUNDING CLIPS. USE P/N M019 ACCELERATOR (ITEM 14).
19. USING INDELIBLE INK, PRINT ASSEMBLY NUMBER, REVISION, LOT NUMBER AND ASSEMBLER INITIALS IN AREA SHOWN.
20. ADD WHITE DOT TO END OF PA431 AS SHOWN.
21. ROUTE TO INSPECTION.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
14	M019	A/R	ACCELERATOR, TAKPAK, LOCTITE, 710
13	M020	A/R	ADHESIVE, LOCTITE TOUGHENED, 411
12	M008A	REF.	ADHESIVE/SEALANT, RTV, CLEAR, 732
11	W078	17.50	WIRE, 28 GAGE, 7 x 36, YEL, UL-1429
10	W076	17.50	WIRE, 28 GAGE, 7 x 36, BLU, UL-1429
9	W022	14.88	WIRE, 18 GAGE, 19 x 30, RED, UL-1430
8	W019	1.00	WIRE, BUSS, SOFT DRAWN, 24 GAGE
7	W017	10.50	WIRE, 18 GAGE, 19 x 30, BLK, UL-1430
6	WT05	1.50	HEAT SHRINK, 3/16" I.D., BLACK
5	WT04	1.00	HEAT SHRINK, 3/32" I.D., BLACK
4	PT09	2	TERMINAL, RECEPT., REEL 102100-6
3	PA431	1	CONN., 12P, DR, ST SOCKET, .050 CTRS.
2	PA374	1	CONN., DB15, FLTR., MALE, SLDR. CUP, 2500pF
1	PA26	1	HOUSING, SR, 3 PIN (.156)

REV.	DESCRIPTION	BY	DATE
B	PER ECN #7894	CHY	1MAY01
A	RELEASED, ECN #7663	CHY	25JUL00

UNLESS OTHERWISE SPECIFIED
TOLERANCES ARE
.XX = ± .25
.XXX = ± .015
ANGLES = ± 1°

DRAWN	CHY	25JUL00
DESIGNED	DM	25JUL00
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
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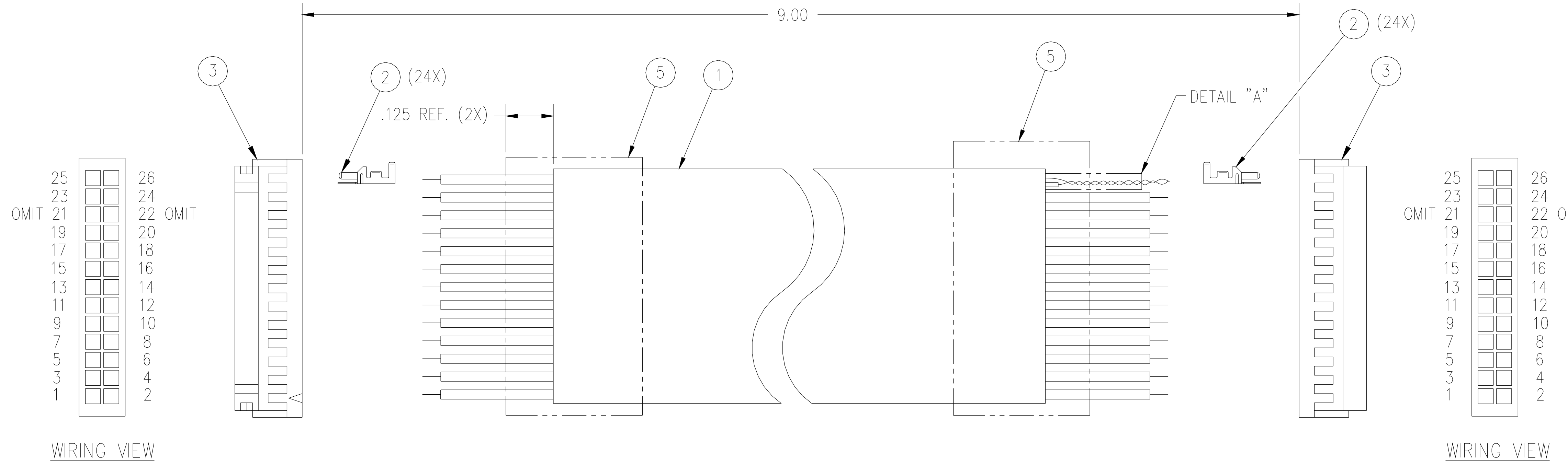
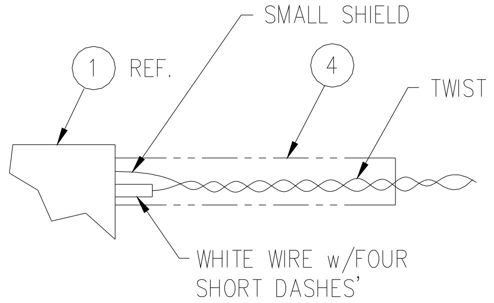
TITLE:
CABLE ASSEMBLY: AC355A
CAB, LOW VOLTAGE DC POWER, 3150

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
NONE	1 of 1	C59B402	B


9.00
3
2 (24X)
.125 REF. (2X)
5
1
5
DETAIL "A"
2 (24X)
3
25 26
23 24
OMIT 21 22 OMIT
19 20
17 18
15 16
13 14
11 12
9 10
7 8
5 6
3 4
1 2
WIRING VIEW
25 26
23 24
OMIT 21 22 OMIT
19 20
17 18
15 16
13 14
11 12
9 10
7 8
5 6
3 4
1 2
WIRING VIEW


SMALL SHIELD
1 REF.
4
TWIST
WHITE WIRE w/FOUR
SHORT DASHES'

DETAIL A

NOTES

1. CUT CABLE (ITEM 1) TO 9.50 LONG. SLIP TWO .50 $^{\pm.06}$ LENGTHS OF SLEEVING (ITEM 5) ONTO CABLE AND LOCATE TOWARDS CENTER. DO NOT SHRINK
2. ON LEFT END, STRIP THE JACKET BACK 1.00. CUT THE BRAIDED SHIELD OFF EVEN WITH THE CABLE JACKET
3. ON THE RIGHT END, BEING CAREFUL NOT TO NICK THE BRAIDED SHIELD, STRIP BACK THE JACKET 1.00. UN-BRAID THE SHIELD ALL THE WAY BACK TO THE JACKET
4. TWIST ABOUT 10 STRANDS OF ADJACENT SHIELD WIRES TO FORM A SMALL SHIELD WIRE. CUT OFF ALL THE REMAINING SHIELD WIRES AT THE CABLE JACKET
5. ON BOTH ENDS, STRIP ALL WIRES .078. ON RIGHT END, STRIP WHITE WIRE w/FOUR SHORT DASHES APPROXIMATELY .88 LONG. TWIST THE SMALL SHIELD WIRES TOGETHER WITH THIS STRIPPED WIRE TO FORM A SINGLE WIRE. ADD APPROXIMATELY .80 LENGTH OF SLEEVING (ITEM 6) OVER THIS WIRE LEAVING .078 EXPOSED AND SHRINK IN PLACE, PER DETAIL A
6. ADD A TERMINAL (ITEM 2) TO ALL WIRES ON BOTH ENDS
7. ROUTE TO INSPECTION
8. INSERT THE WIRES INTO EACH CONNECTOR (ITEM 3) PER THE PIN NUMBER/COLOR CHART AND WIRING VIEWS. NOTE THAT WIRES ARE IDENTIFIED BY A SOLID COLOR ALONE, WITH A NUMBER OF SHORT BLACK DASHES, OR WITH A SINGLE LONG DASH. THE SAME WIRE "COLOR" MUST BE IN THE SAME PIN LOCATION AT BOTH ENDS OF THE CABLE
9. TEST THE CABLE TO INSURE CORRECT PIN-TO-PIN CONNECTIONS
10. PLACE THE PREVIOUSLY ADDED SLEEVING (ITEM 5) TO OVERLAP THE CABLE JACKET BY ABOUT .125 (REF.) AT EACH END AND SHRINK IN PLACE

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
5	WT19	1.00	HEAT SHRINK, 3/8" I.D., NEOPRENE
4	WT07	.75	HEAT SHRINK, 3/64" I.D., BLACK
3	PA290A	2	CONN, 26P, DR, SOCKET, .079 CTRS.
2	PT34	48	CONTACT, CRIMP SOCKET, #24-#28 AWG
1	W066	9.50	CABLE, SHLD, 24 COND., 28 AWG

REV.	DESCRIPTION	BY	DATE
G	PER ECN #5577	KCO	19FEB97
F	PER ECN #5303	CHY	24SEP96
E	PER ECN #5273	CHY	9SEP96
D	PER ECN #5021	CHY	5/8/96
C	PER ECN #4810	CHY	2/28/96
B	PER ECN NO. 4740	CHY	1/15/96
A	RELEASE, ECN #4571	SR	10/13/95

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .25
.XXX = ± .015
ANGLES = ± ——

DRAWN	SR	10/10/95
DESIGNED	RS	9/28/95
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
DO NOT SCALE THIS DRAWING !!!

Invivo Research Inc.
PRECISION BIOMEDICAL INSTRUMENTS
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
CABLE ASSEMBLY: AC252
CABLE, "ACTIVE" LCD DISPLAY, 3500

CAD SCALE	SHEET	DWG. NO.	REV.
NONE	1 OF 2	C59C201	G

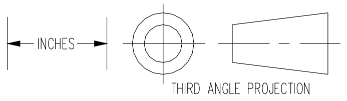
WIRE CHART	
PIN NO.	WIRE COLOR
1	PINK
2	ORANGE
3	YELLOW
4	WHITE
5	PINK w/LONG DASH
6	ORANGE w/LONG DASH
7	YELLOW w LONG DASH
8	WHITE w/LONG DASH
9	PINK w/ONE SHORT DASH
10	ORANGE w/ONE SHORT DASH
11	YELLOW w/ONE SHORT DASH
12	WHITE w/ONE SHORT DASH
13	PINK w/TWO SHORT DASHES

WIRE CHART	
PIN NO.	WIRE COLOR
14	ORANGE w/TWO SHORT DASHES
15	YELLOW w/TWO SHORT DASHES
16	WHITE w/TWO SHORT DASHES
17	PINK w/THREE SHORT DASHES
18	ORANGE w/THREE SHORT DASHES
19	YELLOW w/THREE SHORT DASHES
20	WHITE w/THREE SHORT DASHES
21	SKIP
22	SKIP
23	PINK w/FOUR SHORT DASHES
24	ORANGE w/FOUR SHORT DASHES
25	YELLOW w/FOUR SHORT DASHES
26	WHITE w/FOUR SHORT DASHES

REV.	DESCRIPTION	BY	DATE

UNLESS OTHERWISE SPECIFIED
TOLERANCES ARE
.XX = ± .25
.XXX = ± .015
ANGLES = ± —

DRAWN	SR	10/10/95
DESIGNED	RS	9/28/95
CHECKED		
APPROVED		



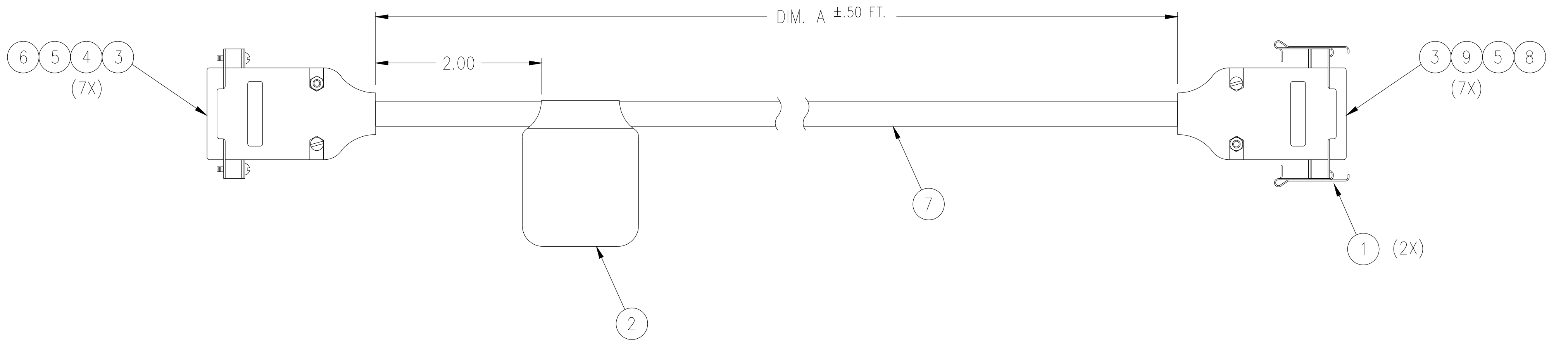
THIRD ANGLE PROJECTION

DO NOT SCALE THIS DRAWING !!!

Invivo Research Inc.
PRECISION BIOMEDICAL INSTRUMENTS
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
CABLE ASSEMBLY: AC252
CABLE, "ACTIVE" LCD DISPLAY, 3500

CAD SCALE	SHEET	DWG. NO.	REV.
NONE	2 OF 2	C59C201	G



PIN TO WIRE COLOR CHART		
PIN	COLOR	FUNCTION
1	WHITE	TX
2	GRAY	RX
7	ORANGE	POWER
8	RED	POWER
9	BLACK	GROUND
10	VIOLET	GROUND
11	BLUE	GROUND

CABLE LENGTH CHART		
ASSY. P/N	DIM. A	TAG P/N
AC348	25.00 FT.	L167
AC348A	5.00 FT.	L167A

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
9	PT29	7	SOCKET, MACHINED, (.04), 24-20 AWG
8	PA358A	1	CONN, DB15, RCPT, SNAP-IN
7	W052	SEE CHART	CABLE, 22 GAGE, 10 CONDUCTOR, MRI
6	PA141	1	PLUG, MALE, DB15
5	PA140	2	BACKSHELL, CONNECTOR 15PIN
4	PA77	7	CONTACT, PIN, CRIMP, 24-20 AWG
3	M092	A/R	TAPE, SHIELDING, COPPER 1" WIDE
2	SEE CHART	1	CABLE TAG, POWER ADAPTER CABLE, 3150
1	H080	2	SPRING LATCH, "D" CONNECTOR

REV.	DESCRIPTION	BY	DATE
E	PER ECN #7627	CHY	17FEB00
D	PER ECN #6811	CHY	9NOV98
C	PER ECN #6397M	CHY	20FEB98
B	PER ECN #6293	SR	14JAN98
A	RELEASED PER ECN #6080	JRB	29SEP97

REF. ASSEMBLY INSTRUCTION AI055

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .25
.XXX = ± ——
ANGLES = ± ——

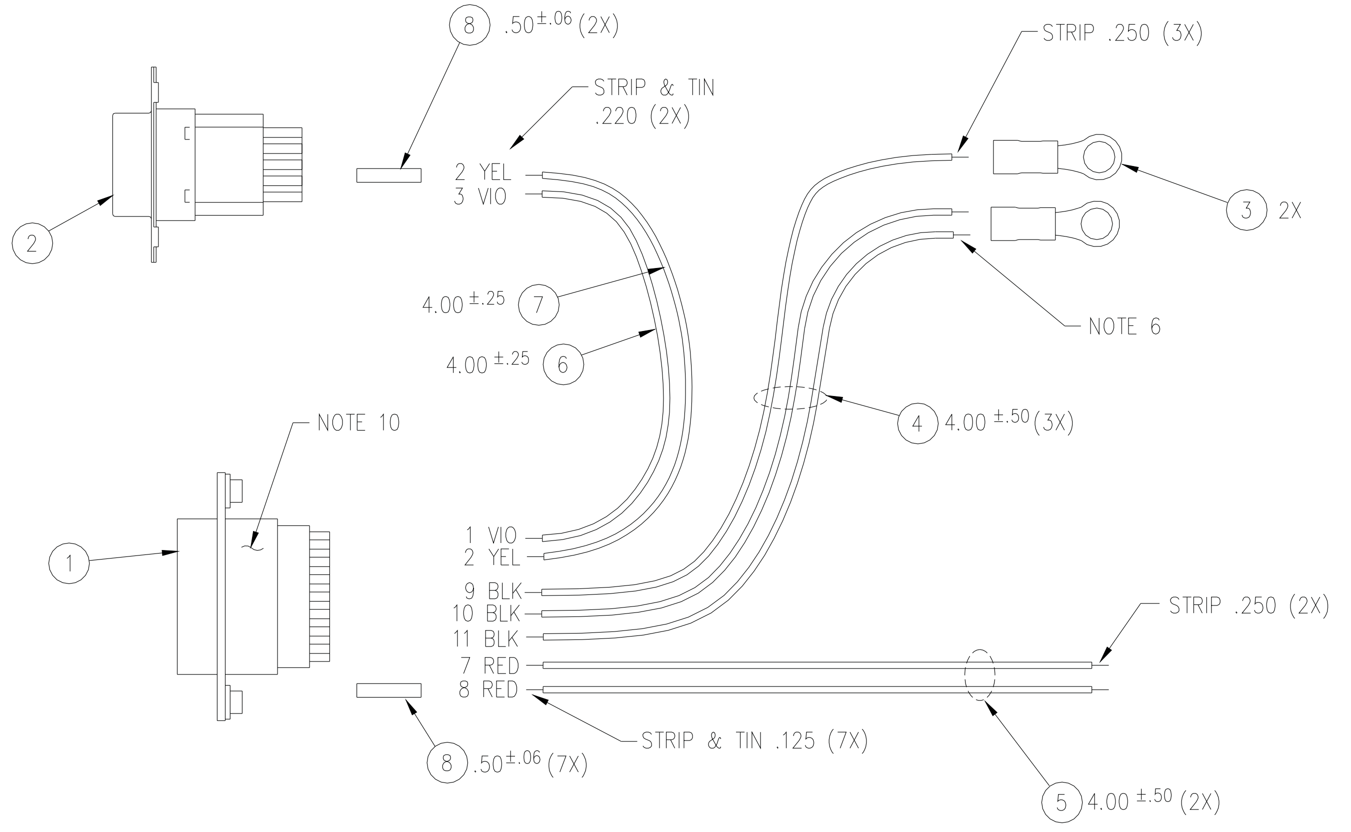
DRAWN	JRB	29SEP97
DESIGNED	JRB	29SEP97
CHECKED		
APPROVED		

Invivo Research Inc.
PRECISION BIOMEDICAL INSTRUMENTS
Subsidiary of Invivo Corporation
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE:
ASSEMBLY: AC348 & AC348A
CAB, POWER ADAPTER, 3150

INCHES
THIRD ANGLE PROJECTION
DO NOT SCALE THIS DRAWING !!!

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
NONE	1 OF 1	C59C339	E



NOTES

1. CUT THREE P/N W005 BLACK WIRES AND TWO P/N W009 RED WIRES (ITEMS 4 & 5) TO 4.00.
2. CUT ONE EACH P/N W008 VIOLET WIRE AND P/N W012 YELLOW WIRE (ITEMS 6 & 7) TO 4.00.
3. STRIP AND TIN ALL WIRES AS NOTED.
4. PLACE .50 LENGTHS OF P/N WT04 HEAT SHRINK ONTO WIRES AS SHOWN. NOTE TWO PIECES ON YELLOW AND VIOLET WIRES. DO NOT SHRINK.
5. SOLDER TINNED END OF WIRES TO PIN NUMBERS SHOWN FOR P/N PA141A CONNECTOR (ITEM 1) AND FOR P/N PA370 CONNECTOR (ITEM 2).
6. TWIST TOGETHER THE UNTINNED ENDS OF BLACK WIRES INDICATED AND CRIMP P/N PT16 RING TERMINAL (ITEM 3) ONTO THE PAIR AS SHOWN.
7. CRIMP P/N PT16 RING TERMINAL ONTO UNTINNED END OF REMAINING BLACK WIRE.
8. ROUTE TO INSPECTION.
9. PLACE PREVIOUSLY APPLIED HEAT SHRINK OVER ALL CONNECTOR SOLDER CUPS AND SHRINK IN PLACE.
10. PRINT ASSEMBLY NUMBER, REVISION, LOT NUMBER, AND ASSEMBLER INITIALS ON UNPRINTED SIDE OF PA141A CONNECTOR IN AREA SHOWN.
11. ROUTE TO INSPECTION.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
8	WT04	4.50	HEAT SHRINK, 3/32 ID BLACK
7	W012	4.00	22 GAGE 19 X 34 YELLOW UL-1429
6	W008	4.00	22 GAGE 19 X 34 VIOLET UL-1429
5	W009	8.00	22 GAGE 19 X 34 RED UL-1429
4	W005	12.00	22 GAGE 19 X 34 BLACK UL-1429
3	PT16	2	TERM, RING TONGUE, #10, 22-16 GA
2	PA370	1	CONN, DB9 RECPT, SOLDRCP, 3000-8000 PF
1	PA141A	1	CONN, FLTR, DB15F, SOLDRCP, 2500PF

REV.	DESCRIPTION	BY	DATE
B	PER ECN #7663	CHY	25JUL00
A	PER ECN #6080	JRB	29SEP97

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .25
.XXX = ± .015
ANGLES = ± ——

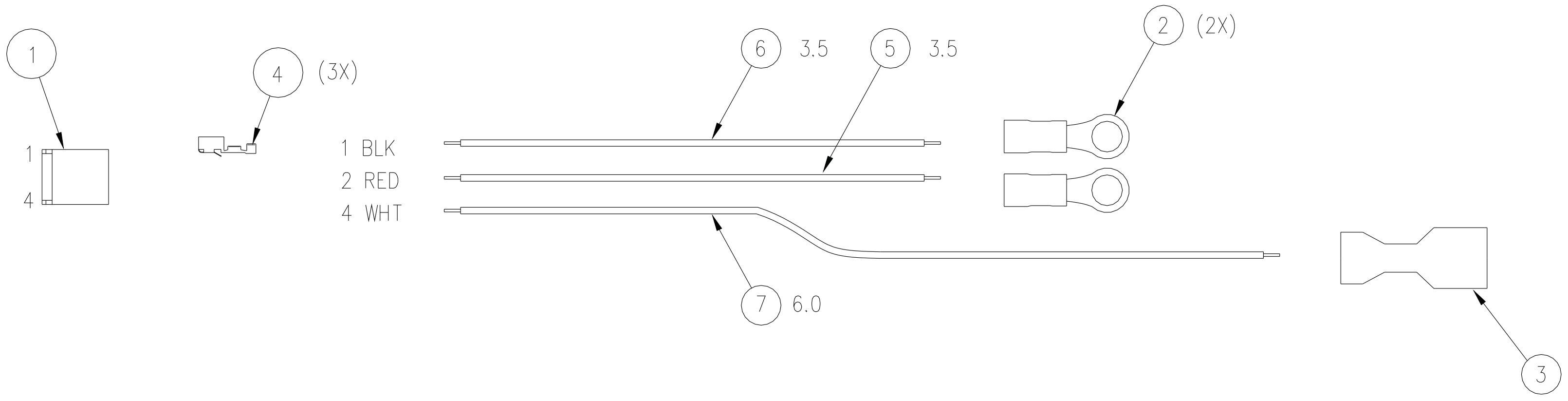
DRAWN	JRB	6OCT97
DESIGNED	JRB	6OCT97
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
DO NOT SCALE THIS DRAWING !!!

Invivo Research Inc.
PRECISION BIOMEDICAL INSTRUMENTS
Subsidiary of Invivo Corporation
12601 RESEARCH PARKWAY, ORLANDO, FL 32826

TITLE
ASSEMBLY: AC349
CAB, POWER-I/O, 3150

CAD SCALE	SHEET	DWG. NO.	REV.
NONE	1 OF 1	C59C340	B



NOTES:

1. CUT P/N W009, W005, AND W032 WIRES (ITEMS 5, 6, 7) TO LENGTH SHOWN.
2. STRIP ONE END OF EACH WIRE .125. STRIP THE OTHER END .250.
3. CRIMP P/N PT36 CONTACT (ITEM 4) ON THE .125 STRIPPED END OF EACH OF THE WIRES.
4. CRIMP P/N PT16 TERMINALS (ITEM 2) ON THE RED AND BLACK WIRES (ITEMS 5 & 6).
5. CRIMP P/N PT05 TERMINAL (ITEM 3) ON THE WHITE WIRE (ITEM 7).
6. ROUTE TO INSPECTION.
7. INSERT PT36-CRIMPED CONTACTS INTO P/N PA344A CONNECTOR (ITEM 1), ENSURING CORRECT WIRE-TO-PIN MATING.
8. ROUTE TO INSPECTION.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
7	W032	6.0	22 GAGE 19X 34 WHITE UL-1429
6	W005	3.5	22 GAGE 19 X 34 BLACK UL-1429
5	W009	3.5	22 GAGE 19 X 34 RED UL-1429
4	PT36	3	CONTACT, CRIMP SOCKET, 22-26 AWG
3	PT05	1	FAST-ON 22-18 AWG
2	PT16	2	TERMINAL, RING TONGUE, #10, 22-16 GA.
1	PA344A	1	CONN, 4P, SR. HSG, LCKG, .100 CTRS.

REV.	DESCRIPTION	BY	DATE
C	PER ECN #6566	KCO	12MAY98
B	PER ECN #6432	JRB	23MAR98
A	RELEASED, ECN #6080	JRB	29SEP97

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.XX = ± .25
.XXX = ± ——
ANGLES = ± ——

DRAWN	JRB	6OCT97
DESIGNED	JRB	6OCT97
CHECKED		
APPROVED		

INCHES

THIRD ANGLE PROJECTION

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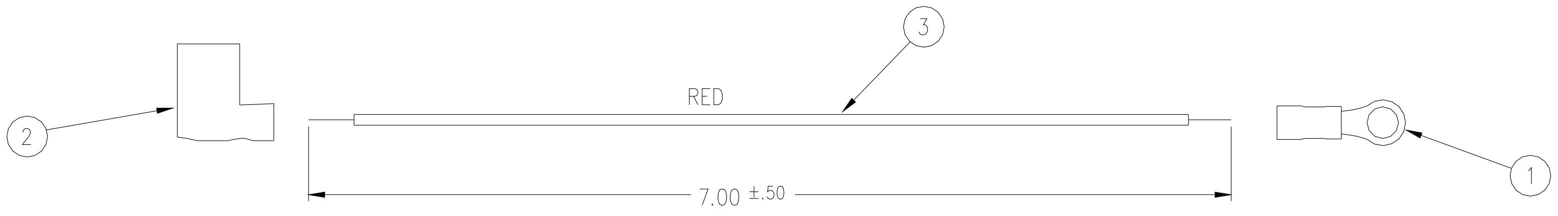
Subsidiary of Invivo Corporation
12601 RESEARCH PARKWAY, ORLANDO, FL 32826

TITLE
ASSEMBLY: AC350
CAB, POWER ADAPTER LED, 3150

CAD SCALE	SHEET	DWG. NO.	REV.
NONE	1 OF 1	C59C341	C



NOTES:

1. CUT P/N W022 RED WIRE (ITEM 3) TO LENGTH SHOWN.
2. STRIP .31 AND CRIMP P/N PT19 TERMINAL (ITEM 2) ON ONE END OF WIRE.
3. STRIP .25 AND CRIMP P/N PT16 TERMINAL (ITEM 1) ON OTHER END OF WIRE.
4. ROUTE TO INSPECTION.

3	W022	7.00	18 GAGE, 19 X 30, RED, UL-1430
2	PT19	1	TERM, RECPT, FLAG, FASTON, 22-18 GA.
1	PT16	1	TERMINAL, RING TONGUE, #10, 22-16 GA.
ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION

A	RELEASED, ECN #6080	JRB	29SEP97
REV.	DESCRIPTION	BY	DATE

UNLESS OTHERWISE SPECIFIED
TOLERANCES ARE
.XX = ± .25
.XXX = ± ——
ANGLES = ± ——

DRAWN	JRB	6OCT97
DESIGNED	JRB	6OCT97
CHECKED		
APPROVED		

INCHES

THIRD ANGLE PROJECTION

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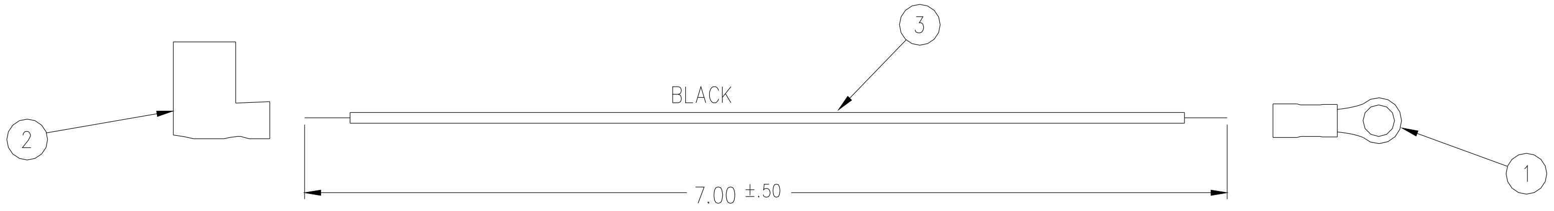
12601 RESEARCH PARKWAY, ORLANDO, FL 32826

TITLE
ASSEMBLY: AC351
CAB, POS. D/C VOLTAGE, 3150

CAD SCALE	SHEET	DWG. NO.	REV.
NONE	1 OF 1	C59C342	A



NOTES:

1. CUT P/N W017 BLACK WIRE (ITEM 3) TO LENGTH SHOWN.
2. STRIP .31 AND CRIMP P/N PT19 TERMINAL (ITEM 2) ON ONE END OF WIRE.
3. STRIP .25 AND CRIMP P/N PT16 TERMINAL (ITEM 1) ON OTHER END OF WIRE.
4. ROUTE TO INSPECTION.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
3	W017	7.00	18 GAGE, 19 X 30, BLACK, UL-1430
2	PT19	1	TERM, RECPT, FLAG, FASTON, 22-18 GA.
1	PT16	1	TERMINAL, RING TONGUE, #10, 22-16 GA.

REV.	DESCRIPTION	BY	DATE
A	RELEASED, ECN #6080	JRB	29SEP97

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UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .25
.XXX = ± ——
ANGLES = ± ——

DRAWN	JRB	6OCT97
DESIGNED	JRB	6OCT97
CHECKED		
APPROVED		

INCHES

THIRD ANGLE PROJECTION

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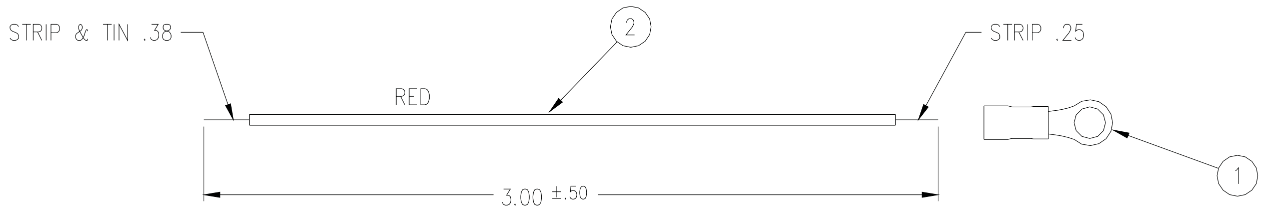
Subsidiary of Invivo Corporation
12601 RESEARCH PARKWAY, ORLANDO, FL 32826

TITLE
ASSEMBLY: AC352
CAB, NEG. D/C VOLTAGE, 3150

CAD SCALE	SHEET	DWG. NO.	REV.
NONE	1 OF 1	C59C343	A



NOTES:

1. CUT P/N W022 RED WIRE (ITEM 2) TO LENGTH SHOWN.
2. STRIP BOTH ENDS AS NOTED
3. CRIMP P/N PT16 TERMINAL (ITEM 1) ON .25 STRIPPED END OF WIRE.
4. ROUTE TO INSPECTION.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
2	W022	3.00	18 GAGE, 19 X 30, RED, UL-1430
1	PT16	1	TERMINAL, RING TONGUE, #10, 22-16 GA.

REV.	DESCRIPTION	BY	DATE
B	PER ECN #6335	CHY	29JAN98
A	RELEASED, ECN #6080	JRB	29SEP97

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .25
.XXX = ± ——
ANGLES = ± ——

DRAWN	JRB	6OCT97
DESIGNED	JRB	6OCT97
CHECKED		
APPROVED		

INCHES

THIRD ANGLE PROJECTION

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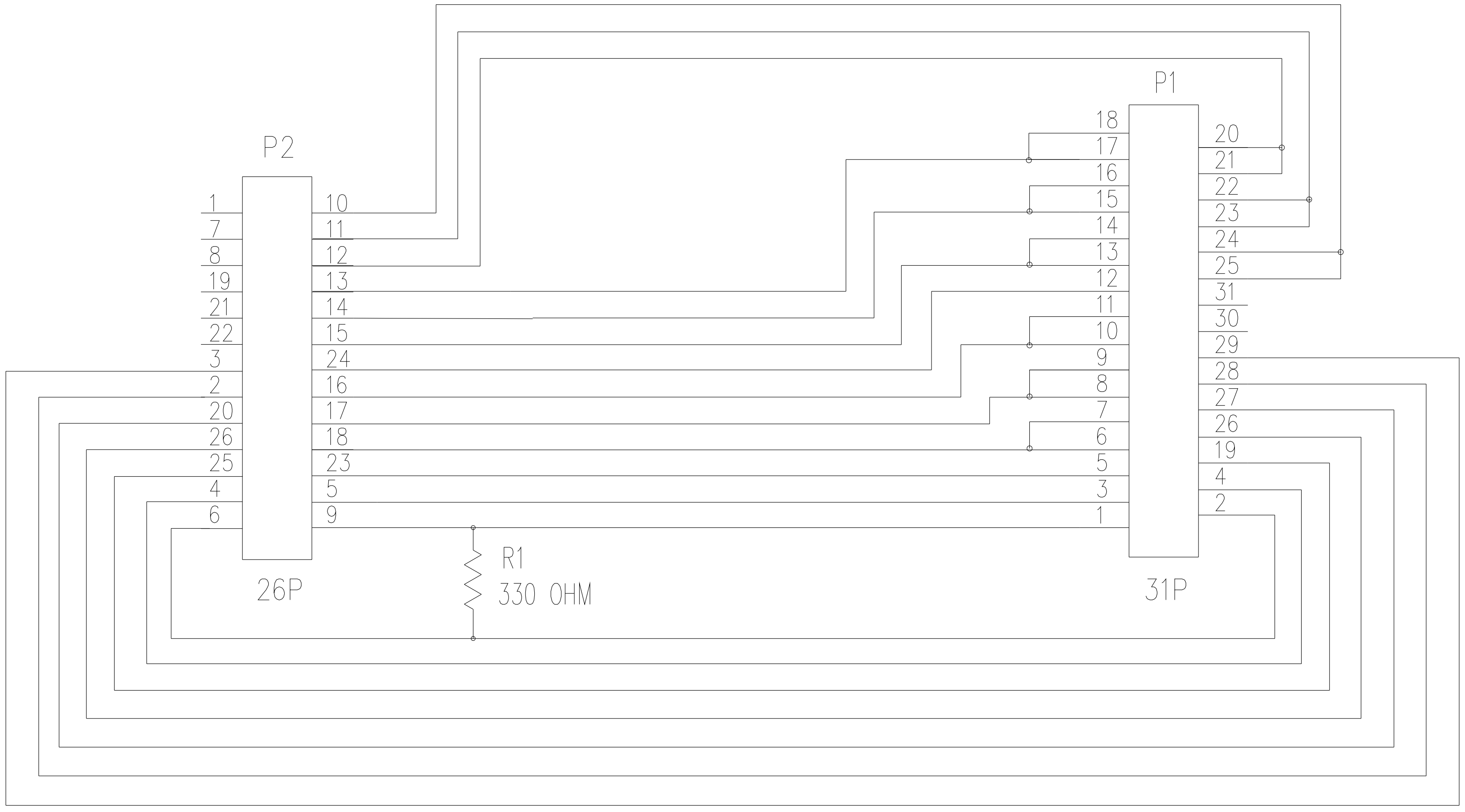
12601 RESEARCH PARKWAY, ORLANDO, FL 32826

TITLE
ASSEMBLY: AC354
CAB, DIODE POWER, 3150

CAD SCALE	SHEET	DWG. NO.	REV.
NONE	1 OF 1	C59C344	B


P2
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REV.	DESCRIPTION	BY	DATE
C	PER ECN #8010	SLC	26SEP00
B	PER ECN #6798	CHY	24AUG98
A	PER ECN #4878	SLC	29FEB96

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UNLESS OTHERWISE SPECIFIED
TOLERANCES ARE
.XX = ±
.XXX = ±
ANGLES = ±

← INCHES →

THIRD ANGLE PROJECTION

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DRAWN	SLC	29FEB96
DESIGNED	SLC	29FEB96
CHECKED		
APPROVED		

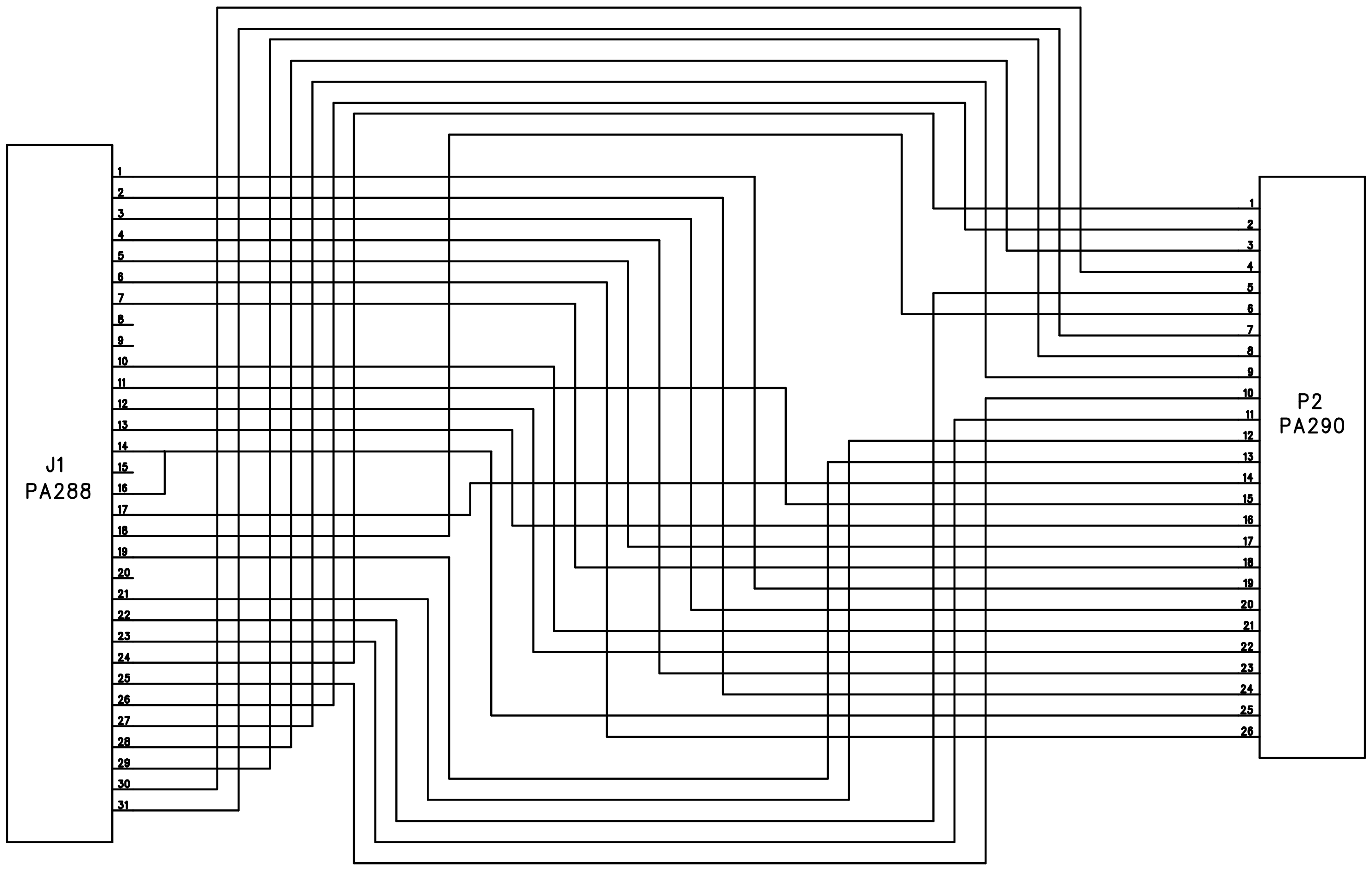
Invivo Research Inc.
PRECISION BIOMEDICAL INSTRUMENTS
Subsidiary of Invivo Corporation
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE:
SCHEMATIC: AB97 PCA, SHARP 321 LCD
ACTIVE DISPLAY CABLE ADAPTER, 3500

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
NONE	1 OF 1	C85B209	C

ECN5877

LF19 REV. A


6
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PA288
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PA290
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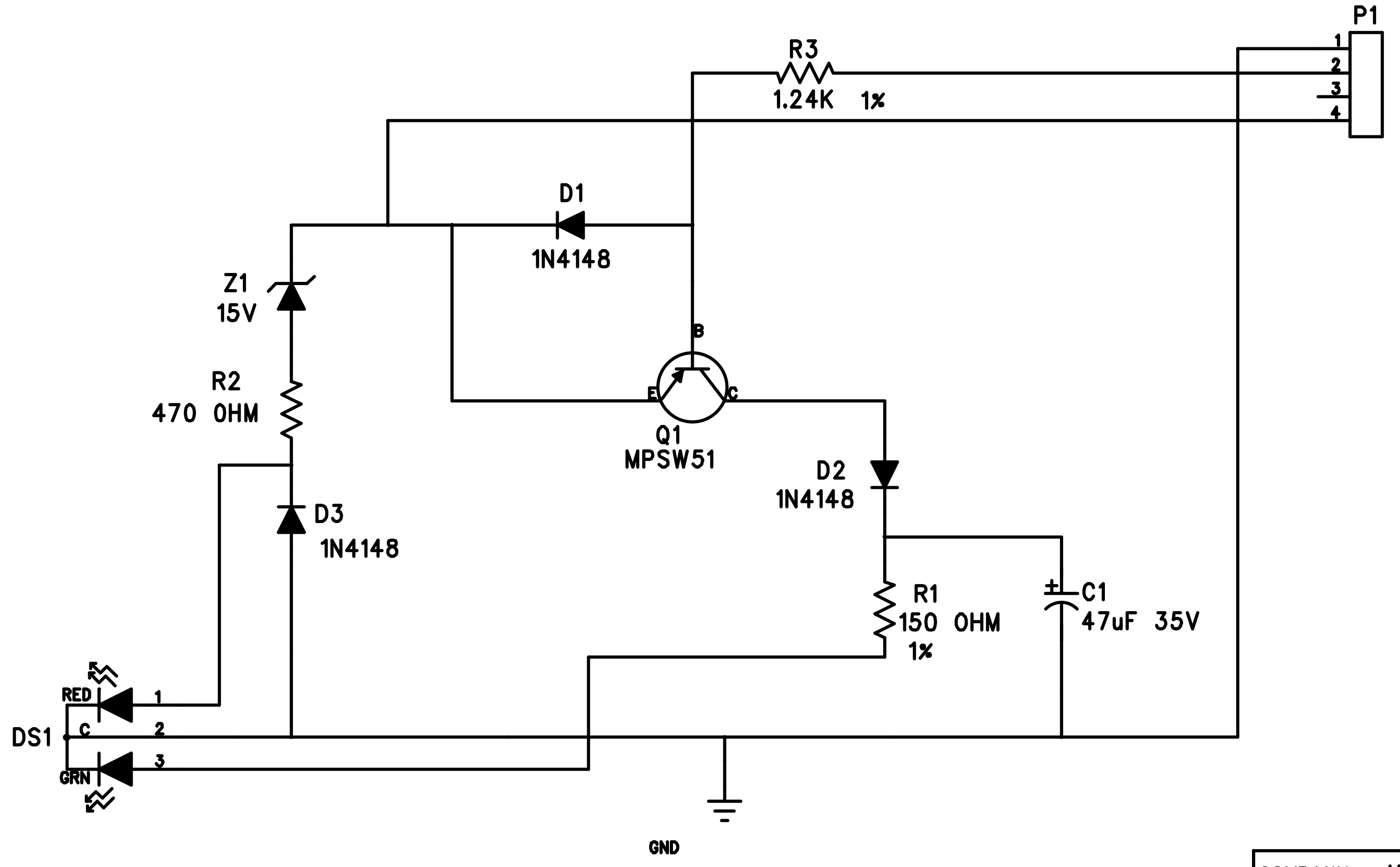
COMPANY: INVIVO RESEARCH INC.
12601 RESEARCH PARKWAY, ORLANDO, FL 32826

TITLE:
SCHEMATIC: AB105
PCA, SHARP 35PX PASS. CAB. ADPTR.

DRAWN: ROGER BAKER
DATED: 11SEP96
CHECKED:
DATED:
QUALITY CONTROL:
DATED:
RELEASED:
DATED:

CODE:
SIZE: C
DRAWING NO: C85B216
REV: A
SCALE:NONE
SHEET: 1 OF 1

A	RELEASED, ECN#5264	JRB	11SEP96
REV.	DESCRIPTION	BY	DATE


P1
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3
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R3
1.24K 1%
D1
1N4148
Z1
15V
R2
470 OHM
B
E
C
Q1
MPSW51
D2
1N4148
D3
1N4148
R1
150 OHM
1%
C1
47uF 35V
RED
C
GRN
DS1
1
2
3
GND

COMPANY: INVIVO RESEARCH INC.
12601 RESEARCH PARKWAY, ORLANDO, FL 32826

TITLE: SCHEMATIC: AB123/B187
PCA, POWER/CHARGER LED, 3150

DRAWN: JRB	DATED: 19MAR98		
CHECKED:	DATED:		
QUALITY CONTROL:	DATED:		
RELEASED:	DATED:		

CODE:	SIZE:	DRAWING NO:	REV:
	B	C85B227	B

SCALE: NONE
SHEET: 1 OF 1

REV.	DESCRIPTION	BY	DATE
B	PER ECN NO. 6669	SLC	23OCT98
A	RELEASED, ECN #6432	JRB	19MAR98

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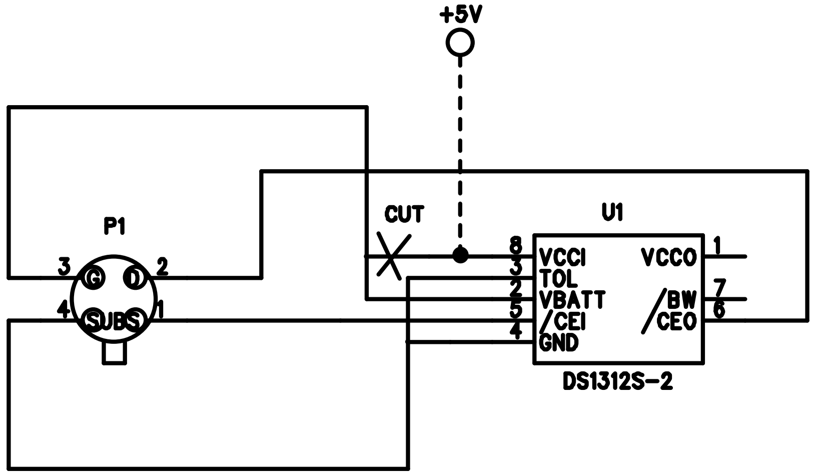
B	PER ECN NO. 8127	SLC	01DEC00
A	RELEASED, ECN NO. 7870	SLC	19JUL00
01	PROTOTYPE 01	SLC	27JUN00
REV.	DESCRIPTION	BY	DATE



COMPANY: Invivo Research, Inc.
12601 Research Parkway, Orlando, FL 32826

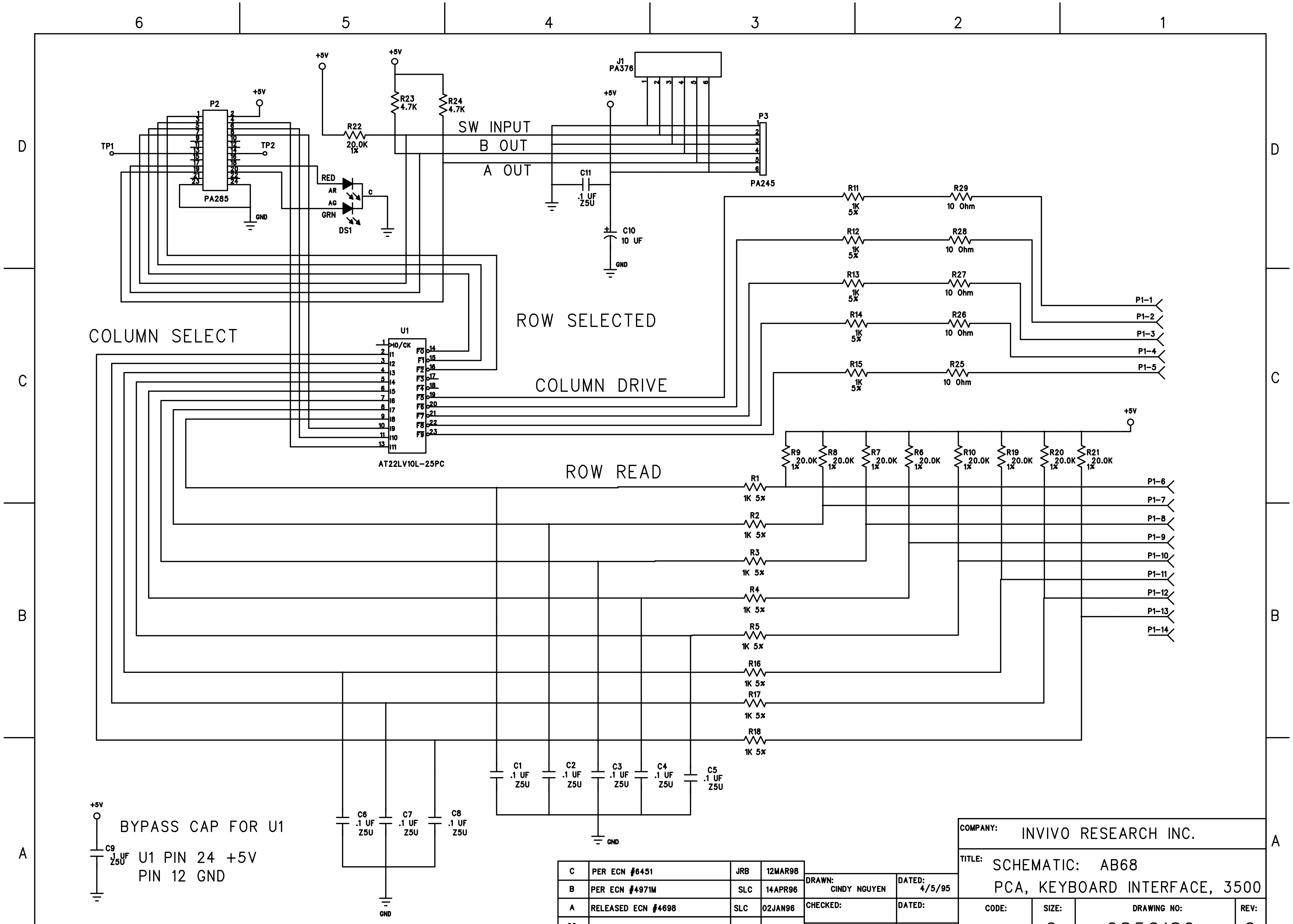
TITLE: SCHEMATIC: AB153
PCA,NON-VOLATILE RAM CONTROLLER

DRAWN: SL CASTEL	DATED: 27JUN00		
CHECKED:	DATED:		
QUALITY CONTROL:	DATED:		
RELEASED:	DATED:		

BARE BOARD NO.	SIZE:	DRAWING NO:	REV:
B207	B	C85B250	B

SCALE: NONE

SHEET: 1 OF 1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D
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P2
PA285
TP1
TP2
+5V
GND
RED
AR
AG
GRN
DS1
C
R22
20.0K
1%
R23
4.7K
R24
4.7K
SW INPUT
B OUT
A OUT
J1
PA376
P3
PA245
C11
.1 UF
Z5U
C10
10 UF
R11
1K
5%
R29
10 Ohm
R12
R28
R13
R27
R14
R26
R15
R25
P1-1
P1-2
P1-3
P1-4
P1-5
ROW SELECTED
COLUMN SELECT
COLUMN DRIVE
U1
AT22LV10L-25PC
ROW READ
R9
R8
R7
R6
R10
R19
R20
R21
20.0K
R1
R2
R3
R4
R5
R16
R17
R18
1K 5%
P1-6
P1-7
P1-8
P1-9
P1-10
P1-11
P1-12
P1-13
P1-14
C1
C2
C3
C4
C5
C6
C7
C8
C9

BYPASS CAP FOR U1

U1 PIN 24 +5V
PIN 12 GND

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REV.	DESCRIPTION	BY	DATE
C	PER ECN #6451	JRB	12MAR98
B	PER ECN #4971M	SLC	14APR96
A	RELEASED ECN #4698	SLC	02JAN96
02	PROTOTYPE	SLN	15SEPT95
01	PROTOTYPE	CN	05APR95

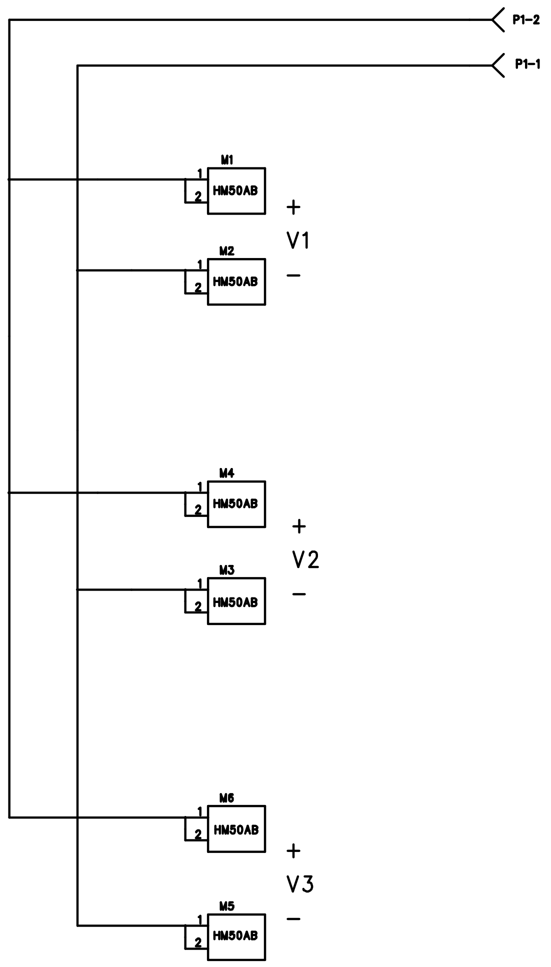
DRAWN: CINDY NGUYEN	DATED: 4/5/95
CHECKED:	DATED:
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

COMPANY: INVIVO RESEARCH INC.

TITLE: SCHEMATIC: AB68
PCA, KEYBOARD INTERFACE, 3500

CODE:	SIZE:	DRAWING NO:	REV:
	C	C85C186	C

SCALE: NONE
SHEET: 1 OF 1


P1-2
P1-1
M1
HM50AB
1
2
M2
HM50AB
1
2
+
V1
–
M4
HM50AB
1
2
M3
HM50AB
1
2
+
V2
–
M6
HM50AB
1
2
M5
HM50AB
1
2
+
V3
–

REV.	DESCRIPTION	BY	DATE
A	RELEASED, ECN#4793	JRB	2/7/96

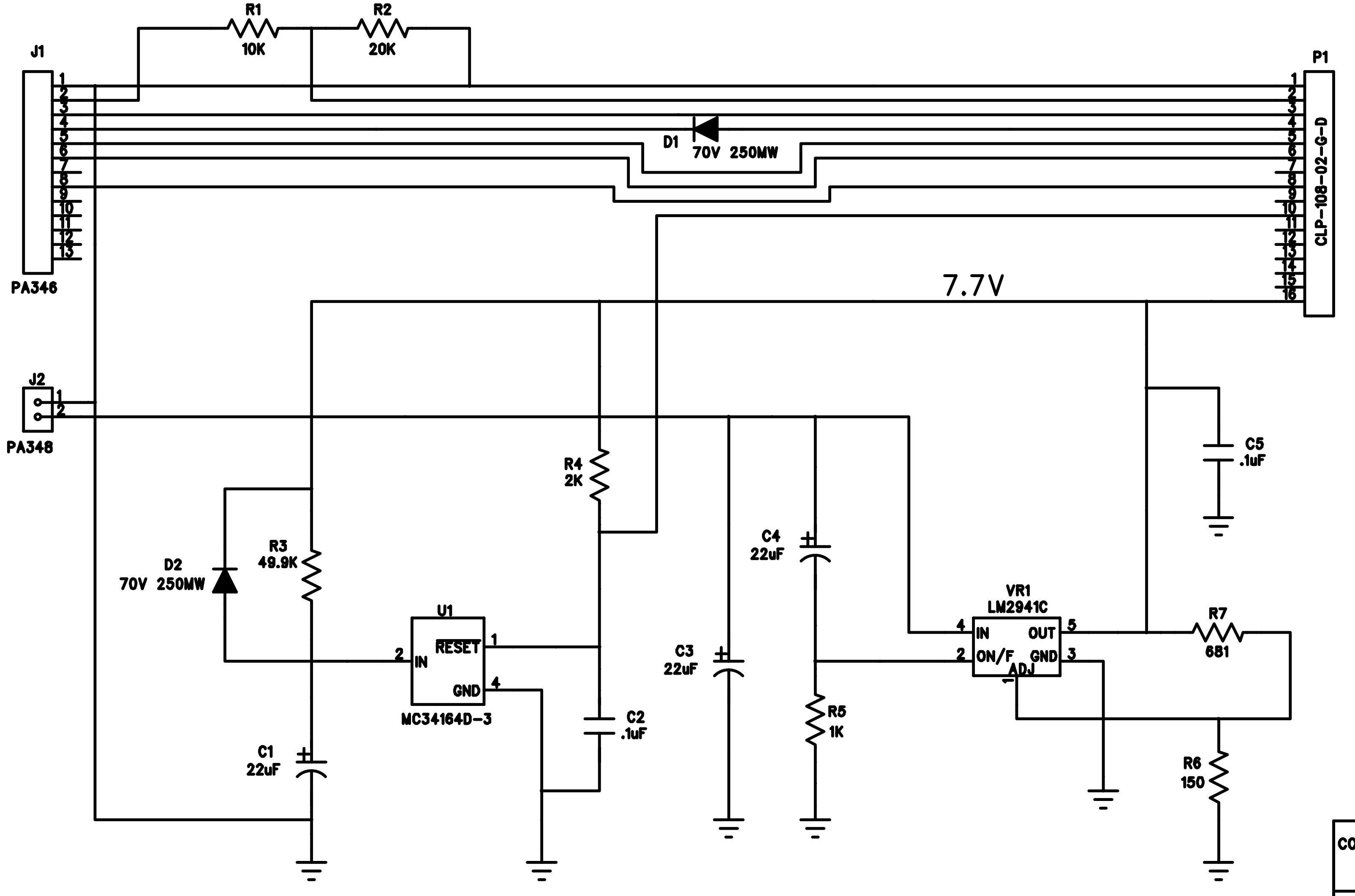
DRAWN: R. BAKER	DATED: 2/6/96
CHECKED:	DATED:
QUALITY CONTROL:	DATED:
RELEASED:	DATED:

COMPANY: INVIVO RESEARCH, INC.
12601 RESEARCH PARKWAY, ORLANDO, FL 32826

TITLE: SCHEMATIC: AB72
PCA, POWER INTERCONNECT 3500

CODE:	SIZE:	DRAWING NO:	REV:
	C	C85C206	A

SCALE: NONE
SHEET: 1 OF 1


R1
10K
R2
20K
J1
P1
D1
70V 250MW
CLP-108-02-G-D
PA346
7.7V
J2
PA348
C5
.1uF
R4
2K
C4
22uF
D2
70V 250MW
R3
49.9K
U1
RESET
IN
GND
MC34164D-3
C2
.1uF
C1
22uF
C3
22uF
R5
1K
VR1
LM2941C
IN
OUT
ON/F
GND
ADJ
R7
681
R6
150

COMPANY: Invivo Research, Inc.
12601 Research Parkway Orlando, FL 32826

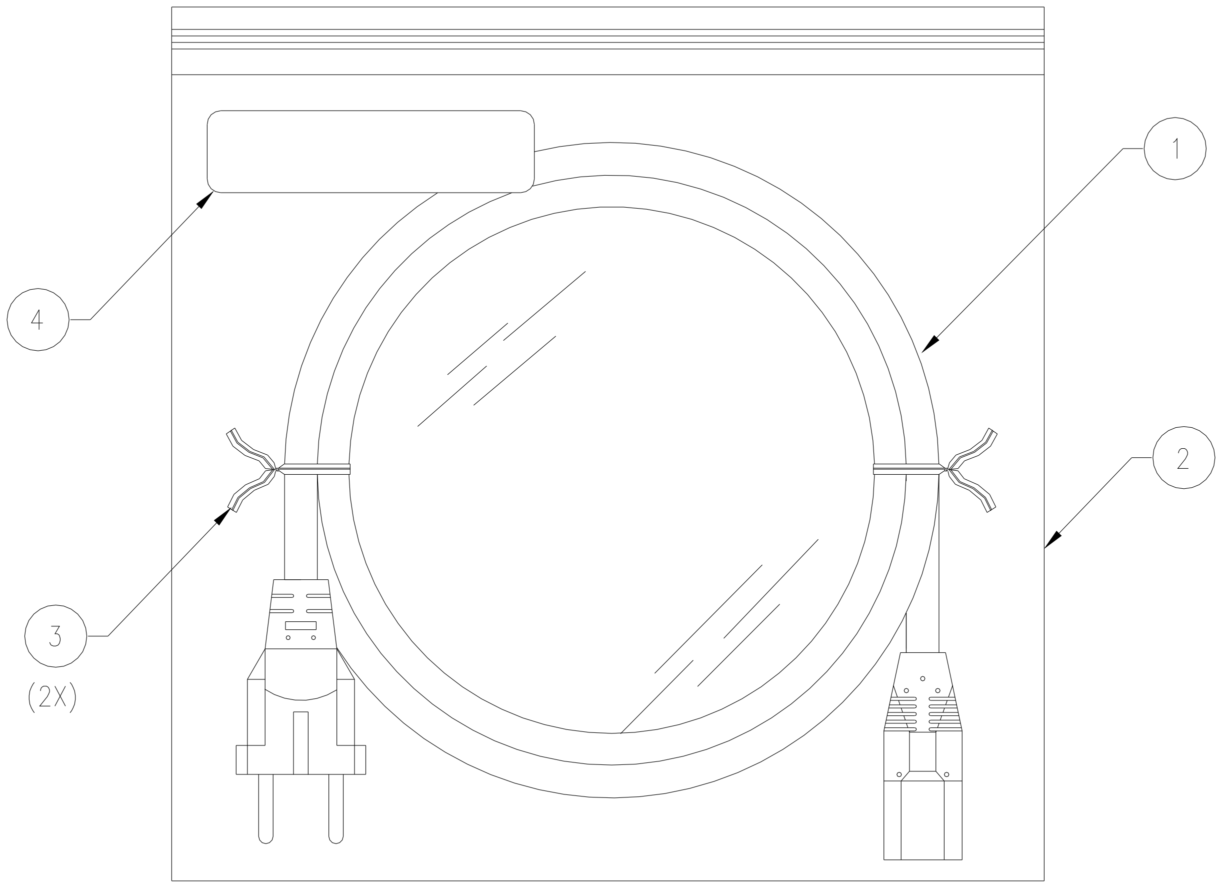
TITLE: SCHEMATIC: AB182
PCA, 2410 RADIO ADAPTER

DRAWN: SL CASTEL
DATED: 24SEP01
CHECKED:
DATED:
QUALITY CONTROL:
DATED:
RELEASED:
DATED:

BARE BOARD NO.	SIZE:	DRAWING NO:	REV:
B238	A	C85C283	B

SCALE: NONE
SHEET: 1 OF 1

REV.	DESCRIPTION	BY	DATE
B	PER ECN #8579	JRB	22JAN02
A	RELEASED ECN 8394	SLC	06NOV01
01	PROTOTYPE 01	SLC	24SEP01



NOTE

1. APPLY TWIST TIES ON POWER CORD AS SHOWN.
2. PLACE LINE CORD IN PLASTIC BAG.
3. AFFIX IN-HOUSE COMPUTER PRINTED LABEL ON BAG AS SHOWN. LABEL TO BE PRINTED WITH THE FOLLOWING INFORMATION: "INVIVO RESEARCH INC.", PART NUMBER, DESCRIPTION, CURRENT REVISION LETTER, LOT NUMBER AND "MADE IN U.S.A."

4	———	1	LABEL, IN-HOUSE COMPUTER PRINTED
3	H065	2	TWIST TIE, PAPER WIRE, 6", WHITE
2	M001C	1	BAG, ZIPLOCK, 8" x 8" x 1.75 MIL.
1	HE39	1	LINE CORD, 10A/220-230V, EURO
ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION

REV.	DESCRIPTION	BY	DATE

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ±
.XXX = ±
ANGLES = ±

DRAWN	SR	11/93
DESIGNED	SR	11/93
CHECKED		
APPROVED		

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DWGS. WITH 'C' PREFIX ARE REDUCED CAD DWGS. - DO NOT SCALE !

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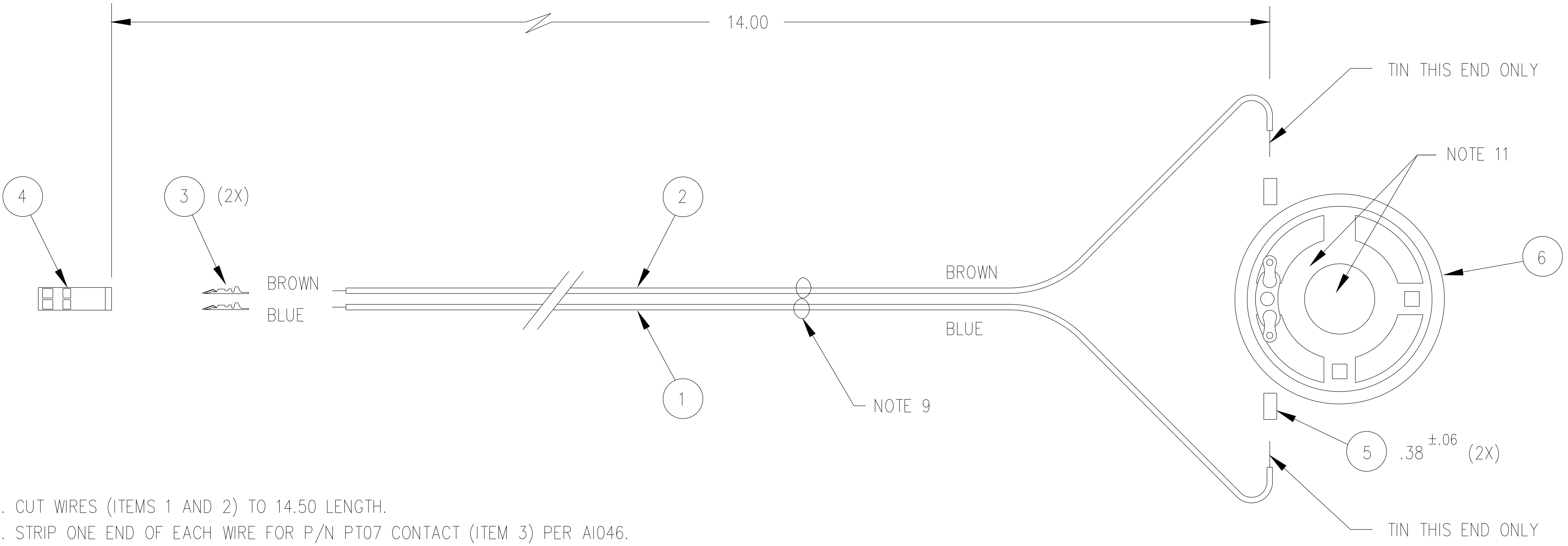
TITLE
SUB-ASSEMBLY: AS18G
LINE CORD, 10A/220-230V, EURO

SCALE	SHEET	DWG. NO.	REV.
NONE	1 OF 1	C94B639	0



NOTES

1. CUT WIRES (ITEMS 1 AND 2) TO 14.50 LENGTH.
2. STRIP ONE END OF EACH WIRE FOR P/N PT07 CONTACT (ITEM 3) PER AI046.
3. STRIP AND TIN .250 ON OPPOSITE END OF EACH WIRE.
4. CRIMP P/N PT07 CONTACTS ONTO UNTINNED ENDS OF WIRES.
5. PLACE .38 ±.06 PIECE OF P/N WT01 HEAT SHRINK (ITEM 5) ONTO WIRES.
6. J-HOOK TINNED ENDS OF WIRES AND SOLDER TO TERMINALS OF P/N HE54 SPEAKER (ITEM 6).
7. ROUTE TO INSPECTION.
8. APPLY HEAT SHRINK OVER SOLDER JOINTS.
9. TWIST WIRES APPROXIMATELY ONE TO TWO TURNS PER INCH.
10. INSERT P/N PT07 CONTACTS INTO P/N PA21 HOUSING (ITEM 4).
11. PRINT ASSEMBLY NUMBER, REVISION, LOT NUMBER, AND ASSEMBLER INITIALS IN EITHER AREA NOTED
12. ROUTE TO INSPECTION

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
6	HE54	1	SPEAKER, LOW PROFILE, SAMARIUM COLBOLT MAGNET
5	WT01	.75	HEAT SHRINK, 1/8" ID BLACK
4	PA21	1	HOUSING, SR, 2 PIN (.10)
3	PT07	2	CONTACT, LOCKING CLIP, 26-22 AWG, REEL
2	W007	14.50	WIRE, 22 GAGE 19 X 34 BROWN UL-1429
1	W010	14.50	WIRE, 22 GAGE 19 X 34 BLUE UL-1429

REV.	DESCRIPTION	BY	DATE
D	PER ECN #5703	CHY	29APR97
C	PER ECN #5143	CHY	7/8/96
B	PER ECN #4819	SR	2/14/96
A	RELEASE, ECN #4571	SR	10/13/95

REV.	DESCRIPTION	BY	DATE
E	PER ECN #8112	CHY	20NOV00

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UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .25
.XXX = ± .015
ANGLES = ± ——

DRAWN	SR	10/4/95
DESIGNED	RS	9/28/95
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
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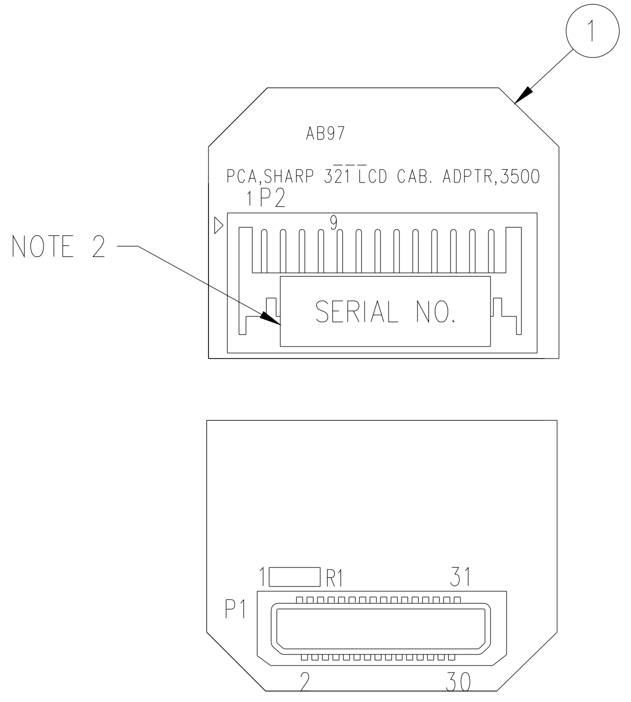
TITLE: SUB-ASSEMBLY: AS137
ASSY, SPEAKER, 3500

CAD SCALE: NONE
SHEET: 1 OF 1
DWG. NO.: C94B690
REV.: E

ECN5877
LF19 REV. A



NOTES

1. WORKMANSHIP TO CONFORM TO IPC CLASS II REQUIREMENTS.
2. BOARD REQUIRES SERIALIZED LABELING WITH THE FOLLOWING INFORMATION:
   UNIQUE SERIAL NO., ASSEMBLY P/N & CURRENT REV. LEVEL.
   PLACE SERIAL NUMBER LABEL IN THIS AREA – ORIENT AS SHOWN.
3. NUMBER OF LAYERS: 2
4. CUT P2 LEADS FLUSH WITH PCB SURFACE TO .025 MAX. PROTRUSION.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
R1	RX223	1	RES, 330 OHM, 5%, .1W, 0805
P2	PA290	1	CONN., 26P, DR, HDR, RA, SHRD, .079
P1	PA288	1	CONN., 31P, DR, RCPT, ST, SMT, .039
1	B160	1	PCB, SHARP 321 LCD DISPLAY CABLE ADPTR., 3500, REV. D

REV.	DESCRIPTION	BY	DATE
J	PER ECN #8299	CHY	19APR01
H	PER ECN #8010	SLC	26SEP00
G	PER ECN #7864	CHY	10JUL00
F	PER ECN #7692	CHY	28MAR00

REV.	DESCRIPTION	BY	DATE
E	PER ECN #7373	CHY	23SEP99
D	PER ECN #6798	CHY	24AUG98
C	PER ECN #6365	SLC	23JAN98
B	PER ECN #4989	JRB	23APR96
A	RELEASED, ECN #4878	SLC	28FEB96

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± ____
.XXX = ± ____
ANGLES = ± ____

DRAWN	SLC	28FEB96
DESIGNED	SLC	15FEB95
CHECKED		
APPROVED		

INCHES

THIRD ANGLE PROJECTION

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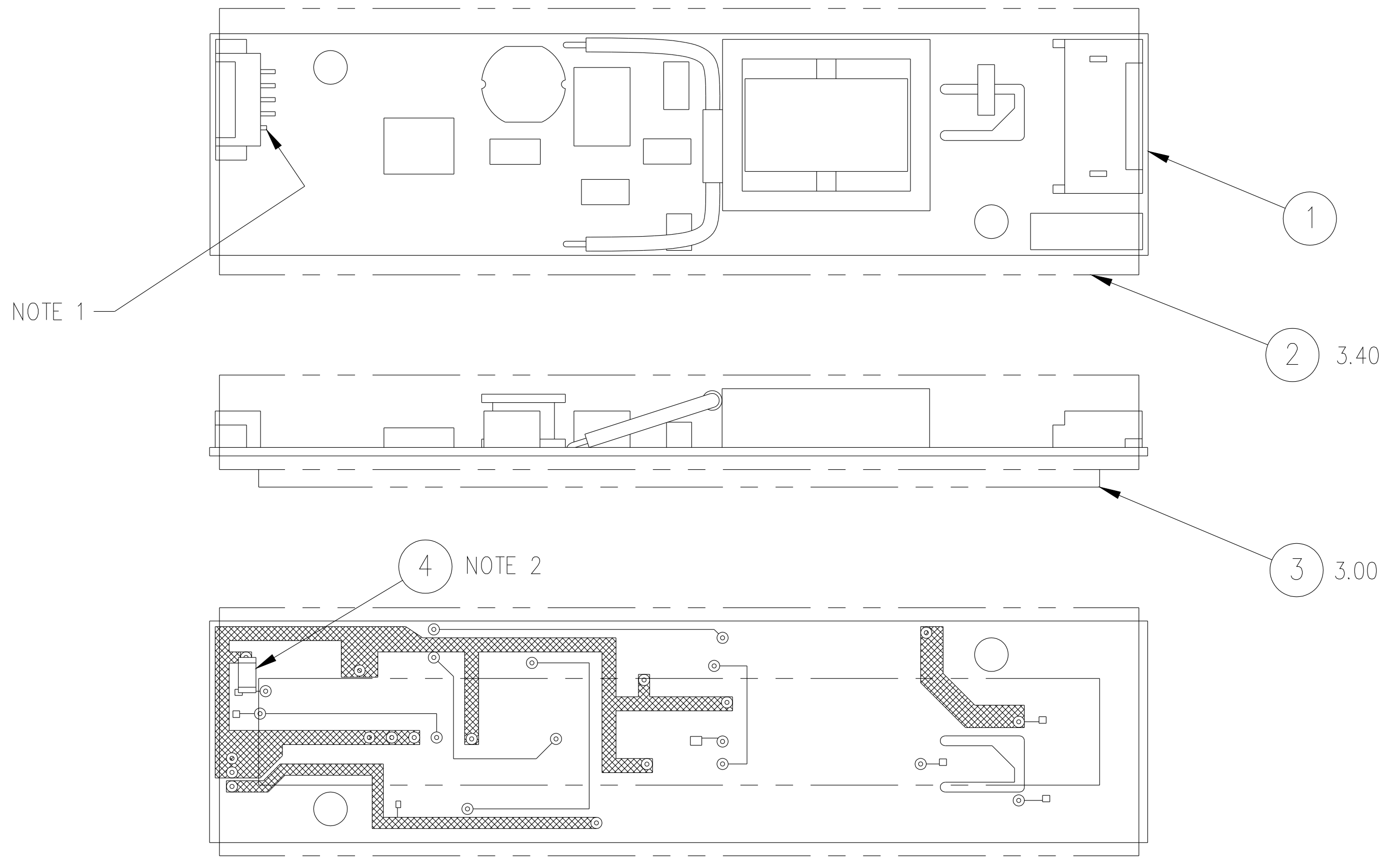
TITLE:
ASSEMBLY: AB97
PCA, SHARP 321 LCD DISPLAY, CABLE ADAPTER, 3500

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
2 : 1	1 OF 1	C94B711	J

ECN5877

LF19 REV. A



NOTES

1. CUT AND DESOLDER PIN 5 OF CN1.
2. SOLDERSIDE, ADD P/N RX120 RESISTOR (ITEM 4) TO UNUSED COMPONENT LOCATION AS SHOWN.
3. ROUTE TO INSPECTION.
4. APPLY & SHRINK APPROXIMATELY 3.40 LENGTH OF P/N WT28 HEAT SHRINK (ITEM 2) OVER P/N AB09 PCA (ITEM 1) AS SHOWN. AVOID EXCESSIVE HEAT.
5. CENTER P/N M000, FOAM TAPE (ITEM 3) ON BOTTOM OF ASSEMBLY AS SHOWN (DO NOT REMOVE BACKING).
6. PRINT LOT NUMBER, ASSEMBLY NUMBER, AND REVISION ON TOP OF ASSEMBLY USING PERMANENT MARKER IN CONTRASTING COLOR.
7. ROUTE TO INSPECTION.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
4	RX120	1	RES., 3.92K, .125W, 1%, 200V, 100 PPM, 1206
3	M000	3.00	TAPE, OPEN CELL FOAM, DS, .06 THK. x .38 WD.
2	WT28	3.40	HEAT SHRINK, 3/4" I.D., BLACK, LOW TEMP.
1	AB09	1	PCA, INVERTER, LCD

REV.	DESCRIPTION	BY	DATE
D	PER ECN #7505	CHY	10DEC99
C	PER ECN #7478	CHY	10DEC99
B	PER ECN #5712	KCO	7MAY97
A	RELEASED, ECN #5026	CHY	6/6/96

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .10
.XXX = ± ——
ANGLES = ± ——

INCHES

THIRD ANGLE PROJECTION

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DRAWN	CHY	6/6/96
DESIGNED	DM	5/7/96
CHECKED		
APPROVED		

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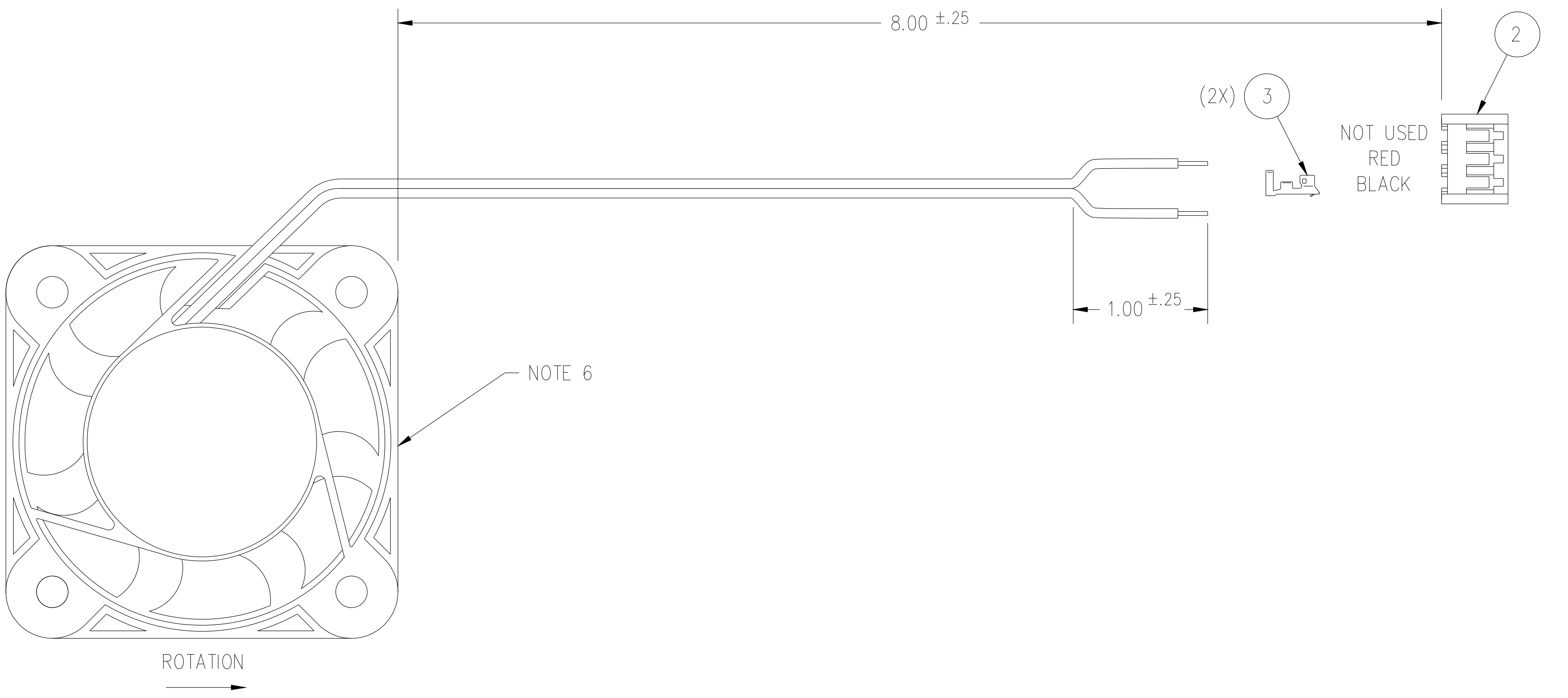
TITLE: ASSEMBLY: AB09A
PCA, LCD INVERTER w/HEAT SHRINK

CAD SCALE: 2 : 1
SHEET: 1 OF 1
DWG. NO.: C94B719
REV.: D

ECN5877

LF19 REV. A



NOTES:

1. CUT P/N HF04, FAN WIRES (ITEM 1) TO 8.00 LENGTH AS SHOWN.
2. SPLIT WIRES TO DIMENSION SHOWN AND STRIP WIRES FOR P/N PT33 CONTACT (ITEM 3) PER AI046.
3. CRIMP P/N PT33, TERMINALS (ITEM 3) ONTO THE WIRE ENDS.
4. ROUTE TO INSPECTION.
5. INSERT TERMINALS INTO P/N PA249A, HOUSING (ITEM 2) AS SHOWN.
6. USING PRINTED LABEL OR INDELIBLE INK IN CONTRASTING COLOR, PRINT ASSEMBLY NUMBER, REVISION, LOT NUMBER AND ASSEMBLER INITIALS ON SIDE OF FAN.
7. ROUTE TO INSPECTION.

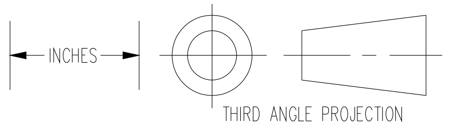
ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
3	PT33	2	CONTACT, CRIMP SOCKET, #22-#30 AWG
2	PA249A	1	CONN, 3P, SR, HSG, ST, .098 CTRS
1	HF04	1	FAN, 12V, DC, BRUSHLESS, 5.3 CFM, 40MM

REV.	DESCRIPTION	BY	DATE
D	PER ECN #6137	CHY	10NOV97
C	PER ECN #5701	CHY	28APR97
B	PER ECN #5563	CHY	11FEB97
A	RELEASED, ECN #5320	SR	10DEC96

REV.	DESCRIPTION	BY	DATE
F	PER ECN #7886	KCO	24JUL00
E	PER ECN #7747	CHY	20APR00

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .12
.XXX = ± .062
ANGLES = ± ——

DRAWN	SR	22NOV96
DESIGNED	SR	22NOV96
CHECKED		
APPROVED		



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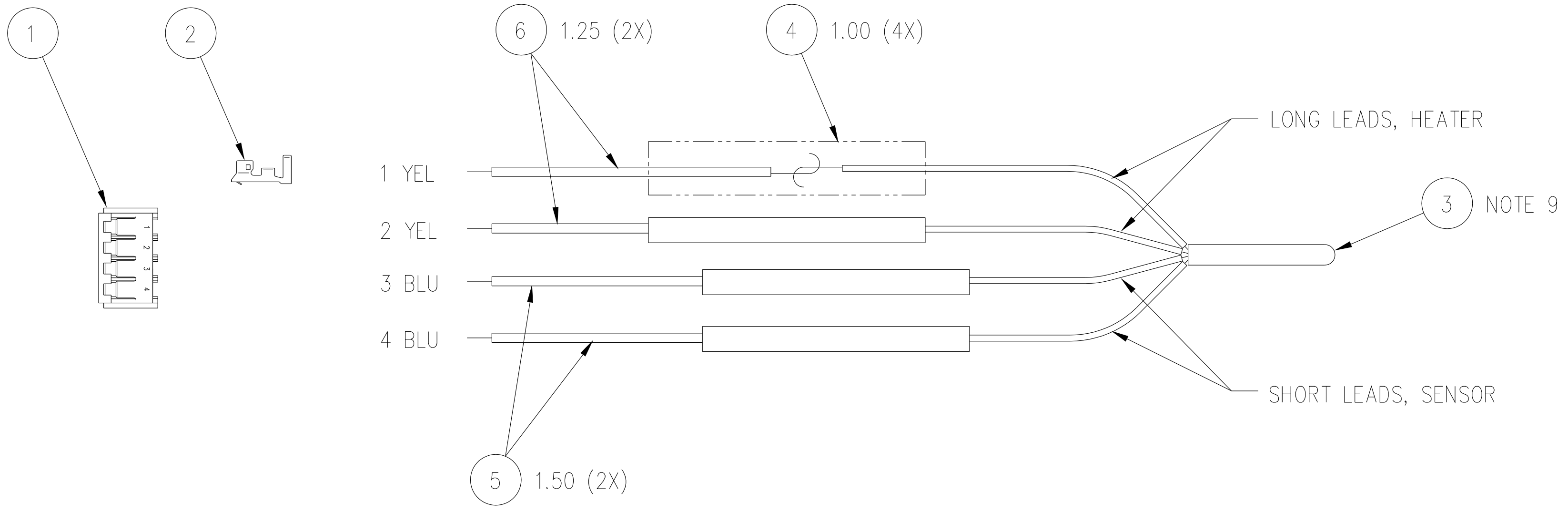
TITLE
ASSY: AS141
FAN, EXHAUST, 3I55MVS

CAD SCALE	SHEET	DWG. NO.	REV.
NONE	1 OF 1	C94B739	F



NOTES
1. CUT TWO P/N W076 WIRES (ITEM 5) TO 1.50 LONG.
2. CUT TWO P/N W078 WIRES (ITEM 6) TO 1.25 LONG.
3. STRIP & TIN ONE END OF EACH WIRE .25.
4. STRIP OPPOSITE END OF WIRES FOR P/N PT33 TERMINAL (ITEM 2) PER AI046.
5. CRIMP TERMINALS ONTO WIRES.
6. ROUTE TO INSPECTION.
7. INSERT TERMINALS INTO P/N PA369A CONNECTOR (ITEM 1).
8. ROUTE TO INSPECTION.
9. P/N RH001 HEATER (ITEM 3) IS A SENSITIVE PART. DO NOT ALLOW COMPONENT BODY TO CONTACT BARE SKIN. USE PROTECTIVE GLOVES WHEN HANDLING.
10. SLIDE 1.00 PIECE OF P/N WT04 HEAT SHRINK (ITEM 4) ONTO WIRES.
11. TIN THE HEATER LEADS. J-HOOK THE WIRES AND LEADS TOGETHER AS SHOWN, AND SOLDER.
12. ROUTE TO INSPECTION.
13. APPLY THE HEAT SHRINK OVER THE SOLDER JOINTS.
14. ROUTE TO INSPECTION.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
6	W078	2.50	WIRE, 28 GA, 7/36, YEL, UL-1429
5	W076	3.00	WIRE, 28 GA, 7/36, BLU, UL-1429
4	WT04	4.00	HEAT SHRINK, 3/32 ID, BLACK
3	RH001	1	HEATER, DUAL ELEMENT, WIREBOUND
2	PT33	4	CONTACT, CRIMP SOCKET, 22-30 AWG
1	PA369A	1	CONN, 4P, SR. HSG, .098 CTRS.

REV.	DESCRIPTION	BY	DATE
C	PER ECN #7866	CHY	5JUL00
B	PER ECN #7155	CHY	23APR99
A	RELEASED, ECN #6800	CHY	18DEC98

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .02
.XXX = ± .010
ANGLES = ± 1°

DRAWN	SR	14DEC98
DESIGNED	DM	24SEP98
CHECKED		
APPROVED		

INCHES

THIRD ANGLE PROJECTION

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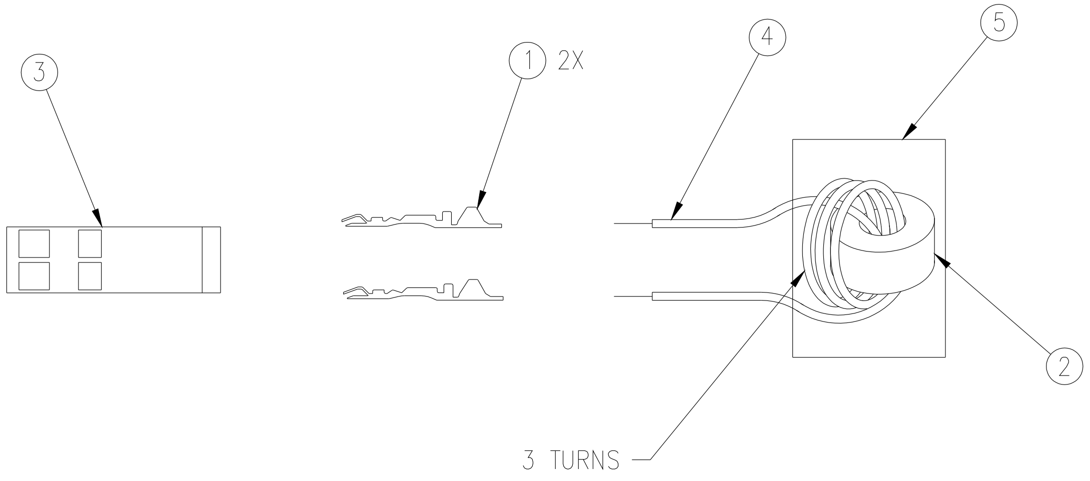
TITLE:
ASSEMBLY: AS162
ASSEMBLY, HEATER, AGENT ANALYZER

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
1 : 1	1 of 1	C94B828	C

ECN5877

LF19 REV. A



NOTES
1. CUT P/N W038 WIRE (ITEM 4) TO 3.75.
2. STRIP ENDS FOR P/N PT07B CONNECTOR (ITEM 1) PER AI046.
3. ROUTE TO INSPECTION.
4. CRIMP PT07B ON WIRE ENDS.
5. LOOP WIRE 3 TIMES THRU P/N T023 BEAD (ITEM 2).
6. INSERT TERMINATED WIRE INTO P/N PA21 HOUSING (ITEM 3).
7. APPLY P/N WT19 HEAT SHRINK (ITEM 5) AS SHOWN.
8. ROUTE TO INSPECTION.

5	WT19	.5	HEAT SHRINK, 3/8 IN. ID, NEOPRENE
4	W038	3.75	WIRE, 26 GAGE 19 X 38 RED UL-1429
3	PA21	1	HOUSING, SR, 2 PIN, (.10)
2	T023	1	SHIELDING BEAD 2643002402
1	PT07B	2	CNTCT, LKG. CLP, 26-22 AWG, GOLD, ST
ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION

A	RELEASED, ECN #7244	KCO	21JUL99
REV.	DESCRIPTION	BY	DATE

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UNLESS OTHERWISE SPECIFIED
TOLERANCES ARE
.XX = ± ____
.XXX = ± ____
ANGLES = ± ____

DRAWN	KCO	21JUL99
DESIGNED	DS	29JUN99
CHECKED		
APPROVED		

INCHES

THIRD ANGLE PROJECTION

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TITLE:
ASSEMBLY: AS167
NOISE FILTER, FERRITE BEAD

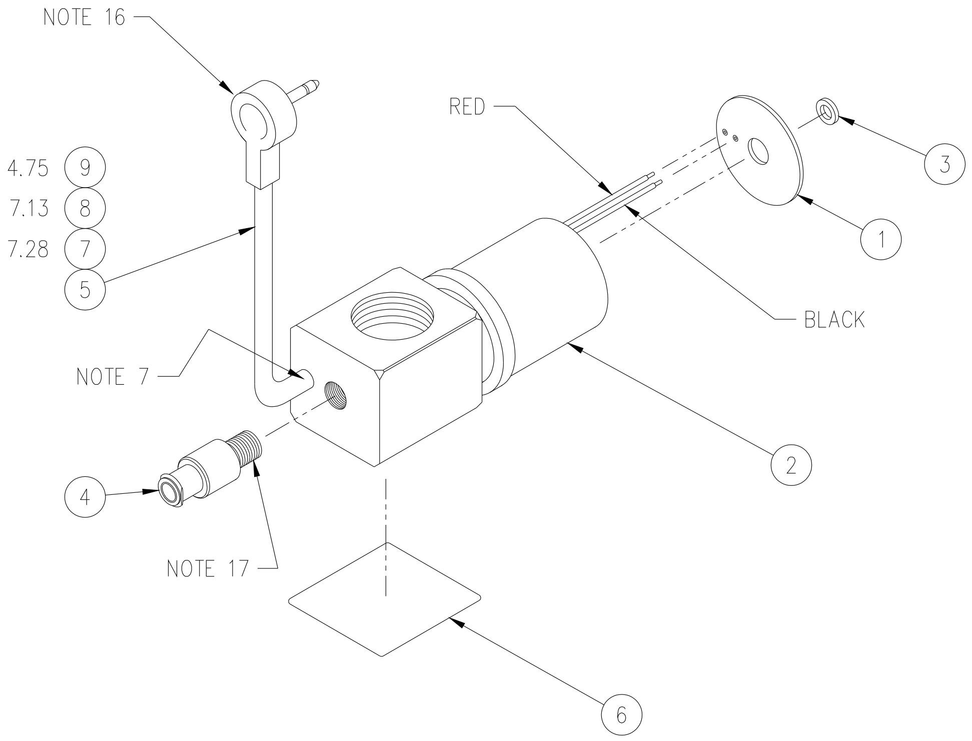
CAD SCALE:	SHEET:	DWG. NO.:	REV.:
1 : 1	1 of 1	C94B850	A

ECN5877

LF19 REV. A

NOTES:

1. CUT P/N W069 BLACK 28GA. WIRE (ITEM 7) TO 7.28 LONG & P/N W073 RED 28GA. WIRE (ITEM 8) TO TO 7.13 LONG. STRIP .06 ON ONE END & .25 ON THE OTHER END. TIN .25 END ONLY.
2. INSERT WIRES THROUGH HOLE IN P/N HM50CA ADAPTER (ITEM 2) .06 STRIPPED END FIRST AS SHOWN.
3. SOLDER .06 ENDS TO P/N B198 SENSOR ADAPTER PCB (ITEM 1). BLACK WIRE GOES TO INNER RING (NEGATIVE) ON PCB & RED WIRE GOES TO OUTER RING (POSITIVE) ON PCB. TRIM SOLDER TAILS ON WIRES TO WITHIN .04 FROM SURFACE ON PCB. NO SHARP EDGES/JOINTS ALLOWED ON OUTER GOLD RINGS OF PCB. GOLD RINGS OF B198 SENSOR ADAPTER PCB ARE TO FACE AWAY FROM P/N HM50CA ADAPTER.
4. ROUTE TO INSPECTION.
5. APPLY P/N M207 LOCTITE PRIMER (ITEM 12) TO BOTH MATING SURFACES OF HM50CA ADAPTER & B198 PC BOARD. ALLOW TO DRY.
6. APPLY (2) SMALL DROPS OF P/N M206 LOCTITE 401 ADHESIVE (ITEM 11) TO PRIMED, INNER SURFACE OF B198 PC BOARD & ASSEMBLE TO HM50CA ADAPTER. ALLOW ADHESIVE TO CURE.
7. FILL WIRE HOLE ON EXIT END END OF HM50CA ADAPTER W/WIRES USING P/N M008B BLACK RTV (ITEM 10). DISPENSE SEALANT USING SYRINGE SO AS TO MINIMIZE OVERFLOW & SMEARING OF RTV. ALLOW TO CURE.
8. TWIST WIRES 1 – 2 TURNS PER INCH.
9. CUT HEAT SHRINK TUBING P/N WT04 (ITEM 9) 4.75 LONG.
10. INSERT WIRES THROUGH WT04 TUBING & SLIDE P/N PA409 PLUG (ITEM 5) COVER OVER TUBING.
11. J-HOOK & SOLDER BOTH WIRES TO PA409 PLUG BODY. BLACK WIRE GOES TO CENTER LUG & RED WIRE GOES TO OUTER SHIELD ON PLUG BODY.
12. IF THIS ASSEMBLY IS MADE OR REPAIRED USING NO-CLEAN SOLDER, ALL FLUX RESIDUE MUST BE THOROUGHLY REMOVED USING AN APPROPRIATE FLUX CLEANER.
13. ROUTE TO INSPECTION.
14. CRIMP PA409 STRAIN RELIEF TABS OVER BOTH WIRES AND HEAT SHRINK TUBING. ENSURE CRIMP IS ON TOP OF AND RESTRAINING HEAT SHRINK TUBING, NOT ON TOP OF WIRES.
15. SHRINK TUBING IN PLACE.
16. SCREW PA409 PLUG COVER TO PA409 PLUG BODY.
17. DISPENSE P/N M008B BLACK RTV INTO TOP OF P/N PA409 PLUG COVER TO RETAIN CABLE. MINIMIZE OVERFLOW AND ALLOW TO CURE.
18. ASSEMBLE P/N HP128 FEMALE LUER (ITEM 4) TO HM50CA ADAPTER. USE P/N M202 ADHESIVE (ITEM 15) ON HP128 THREADS.
19. ASSEMBLE P/N HP99 O-RING (ITEM 3) TO HM50CA ADAPTER.
20. APPLY P/N L214 9461 ID LABEL (ITEM 6) TO BOTTOM OF HM50CA ADAPTER.
21. PLACE ENTIRE ASSEMBLY INTO P/N M001B ZIPLOCK BAG (ITEM 14), AND ADD P/N L131 ID LABEL (ITEM 13) TO OUTSIDE OF BAG.
22. ROUTE TO INSPECTION.



ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
15	M202	A/R	ADHESIVE, (BLACK) LOCTITE 410
(NOT SHOWN) 14	M001B	1	BAG, ZIPLOCK, 6 X 6 X 1.15 MIL
13	L131	REF	LABEL, ID, COMPUTER PRINTED
12	M207	REF	PRIMER, LOCTITE 770
11	M206	REF	ADHESIVE, LOCTITE 401
10	M008B	REF	ADHESIVE/SEALANT, RTV, BLACK, 732
9	WT04	4.75	HEAT SHRINK TUBING, 3/32" ID, BLACK
8	W073	7.13	WIRE, 28 GA., 7/36, RED, UL-1429
7	W069	7.28	WIRE, 28 GA., 7/36, BLACK, UL-1429
6	L214	1	LABEL, KIT, ANESTH. O2 SENSOR, 9461
5	PA409	1	PLUG, 3.5mm, MONO, PHONO
4	HP128	1	LUER, FEMALE, #1/4-28 THD.
3	HP99	1	O-RING, .087 ID X .070 CS, TFLN/BUNA-N
2	HM50CA	1	ADAPTER, ANESTHETIC O2 SENSOR, 3500
1	B198	1	PCB, ANESTHETIC O2 SENSOR ADAPTER

REV.	DESCRIPTION	BY	DATE
E	PER ECN #8400	CHY	9AUG01

REV.	DESCRIPTION	BY	DATE
D	PER ECN #7804	KCO	18SEP00
C	PER ECN #7949	CHY	30AUG00
B	PER ECN #7349	CHY	1OCT99
A	RELEASED, ECN #7308	KCO	5AUG99

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.XX = ± .06
.XXX = ± ——
ANGLES = ± ——

DRAWN	KCO	3AUG99
DESIGNED	RLM	27JUL99
CHECKED		
APPROVED		

←INCHES→ THIRD ANGLE PROJECTION

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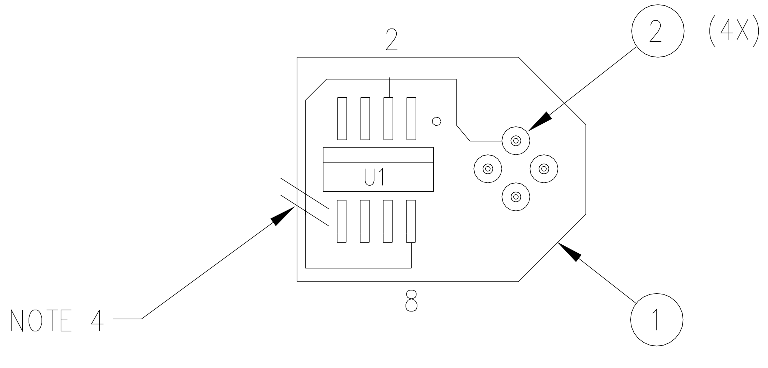
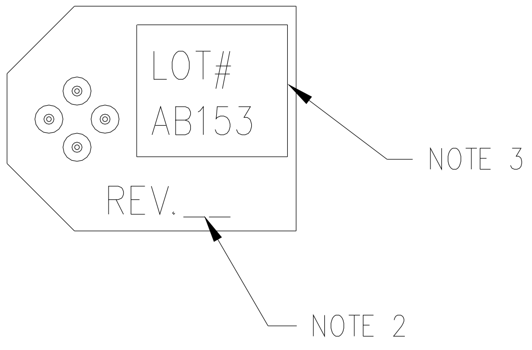
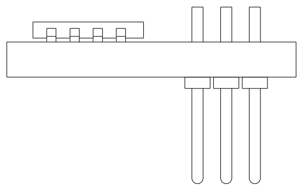
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE: SUB ASSEMBLY: AS168
ADAPTER, ANESTH. O2 SENSOR, 3500

CAD SCALE	SHEET	DWG. NO.	REV.
NONE	1 of 1	C94B852	E







NOTES

1. WORKMANSHIP TO CONFORM TO IPC CLASS II REQUIREMENTS.
2. USING INDELIBLE INK IN CONTRASTING COLOR, PRINT CURRENT ASSEMBLY REV. IN SPACE PROVIDED.
3. PLACE SMALL LABEL WITH LOT NUMBER AND BOARD ASSEMBLY NUMBER ON SOLDER SIDE AS SHOWN.
4. CUT TRACE BETWEEN U1-2 AND U1-8.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
2	P038	4	PIN, PRINTED CIRCUIT BOARD, MACHINED
U1	ICX89	1	IC, NONVOLATILE RAM CNTRLR, DS1312, S08
1	B207	1	PCB, NONVOLATILE RAM ADAPTER REV. A

REV.	DESCRIPTION	BY	DATE
B	PER ECN #8127	SR	1DEC00
A	RELEASED, ECN #7870	SLC	18JUL00
01	RELEASED FOR PROTOTYPE	SLC	30JUN00

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.XX = ± .02
.XXX = ± .010
ANGLES = ± 1°

DRAWN	SLC	30JUN00
DESIGNED	SLC	30JUN00
CHECKED		
APPROVED		

INCHES

THIRD ANGLE PROJECTION

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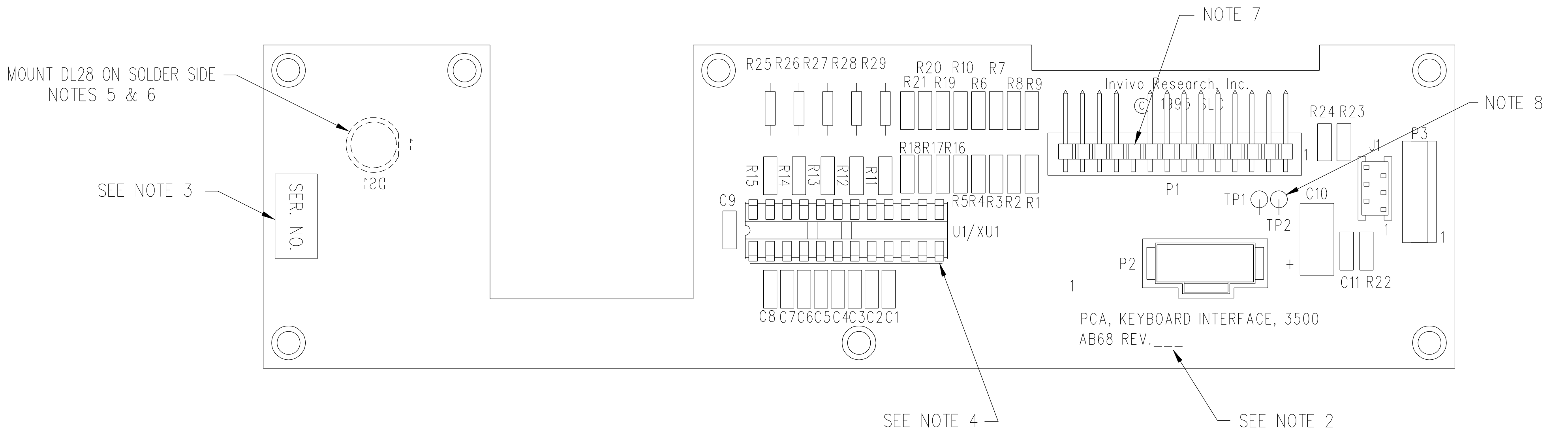
Subsidiary of Invivo Corporation
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE: ASSEMBLY: AB153
PCA, NONVOLATILE RAM ADPTR, 3500

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
1 : 1	1 of 1	C94B883	B

ECN5877

LF19 REV. A


MOUNT DL28 ON SOLDER SIDE
NOTES 5 & 6
SEE NOTE 3
SER. NO.
DS1
NOTE 7
NOTE 8
R25 R26 R27 R28 R29
R20 R10 R7
R21 R19 R6 R8 R9
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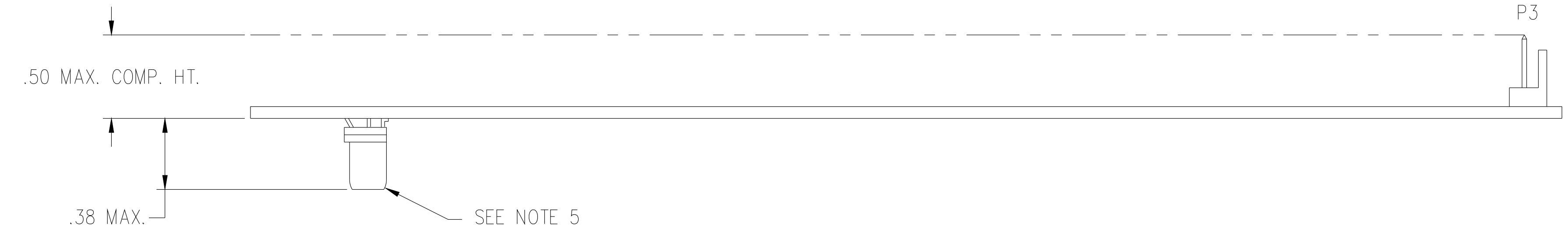
R24 R23
1
R18R17R16
R15 R14 R13 R12 R11
C9
R5R4R3R2 R1
U1/XU1
P1
TP1
TP2
C10
J1
P3
1
1
P2
+
1
C11 R22
C8 C7C6C5C4C3C2C1
PCA, KEYBOARD INTERFACE, 3500
AB68 REV.___
SEE NOTE 4
SEE NOTE 2


P3
.50 MAX. COMP. HT.
.38 MAX.
SEE NOTE 5

NOTES

1. WORKMANSHIP TO CONFORM TO IPC CLASS II REQUIREMENTS
2. USING INDELIBLE INK IN CONTRASTING COLOR, PLACE CURRENT ASSEMBLY REV. IN SPACE PROVIDED
3. BOARD REQUIRES SERIALIZED LABELING WITH THE FOLLOWING INFORMATION: UNIQUE SERIAL NO., ASSEMBLY P/N & CURRENT REV. LEVEL. PLACE SERIAL NUMBER LABEL IN THIS AREA–ORIENT AS SHOWN.
4. U1 (AM40) TO BE INSTALLED AT FINAL ASSEMBLY.
5. CAREFULLY MODIFY DL28 BY GRINDING, FILING, ETC. TO DIMENSION SHOWN WHEN SOLDERED ON BOARD
6. CHECK FOR CONTINUITY BETWEEN DS1–P1 AND CENTER PIN AFTER DL28 HAS BEEN SOLDERED IN PLACE. THERE SHOULD BE NO CONNECTION
7. CUT PIN 10 FLUSH WITH CONNECTOR ON P1
8. BEND TO 45° IN DIRECTION SHOWN

	ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
	J1	PA376	1	CONN, 6P, RCPT, MICRO–MATCH, .050
NOTE 4	XU1	P030	1	SOCKET, 24 PIN DIP, .300 CTRS.
	TP1,TP2	PA00	2	HEADER, UNSH, SR, 1 PIN (.10)
	R25–29	R051	5	RES, 10 OHM, 5%, .25W, CF
	R23,24	RX08	2	RES, 4.7K, .125W, 5%
	R6–10, 19–22	RX58	9	RES, 20K, ±1%, .125W, SMD, 1206
	R1–5, 11–18	RX23	13	RES, 1K, ±5%, .125W, 200 PPM, CHIP
	P3	PA245	1	CONN, 6P, SR, HDR, ST, .100 CTRS
	P2	PA285	1	CONN, 24P, DR. HDR., SHRD, .050 CTRS.
	P1	PA246	1	CONN, 14P, SR, HDR, RA, (.100 CTRS)
	DS1	DL28	1	LED, BI–COLOR, NEW RED/GREEN, T1.75
	C10	CXT05	1	CAP, 10uF, 20%, 35V, SIZE D, TANT.
	C1–9,11	CX07	10	CAP, 1uf, 20%, 50V, Z5U, CHIP, CER.
	1	B144	1	PCB, KEYBRD. INTRFC., 3500 REV. C

REV.	DESCRIPTION	BY	DATE
B	PER ECN #4800	CHY	3/7/96
A	RELEASED, ECN #4698	SLC	12/20/95
02	PROTOTYPE REVISION	SR	9/25/95
01	PROTOTYPE REVISION	CHY	6/16/94

REV.	DESCRIPTION	BY	DATE
G	PER ECN #6606	JWT	10JUN98
F	PER ECN #6451	JRB	13MAR98
E	PER ECN #5227	CHY	14AUG96

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± ——
.XXX = ± ——
ANGLES = ± ——

DRAWN	SR	12/20/95
DESIGNED	CN	6/16/94
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION

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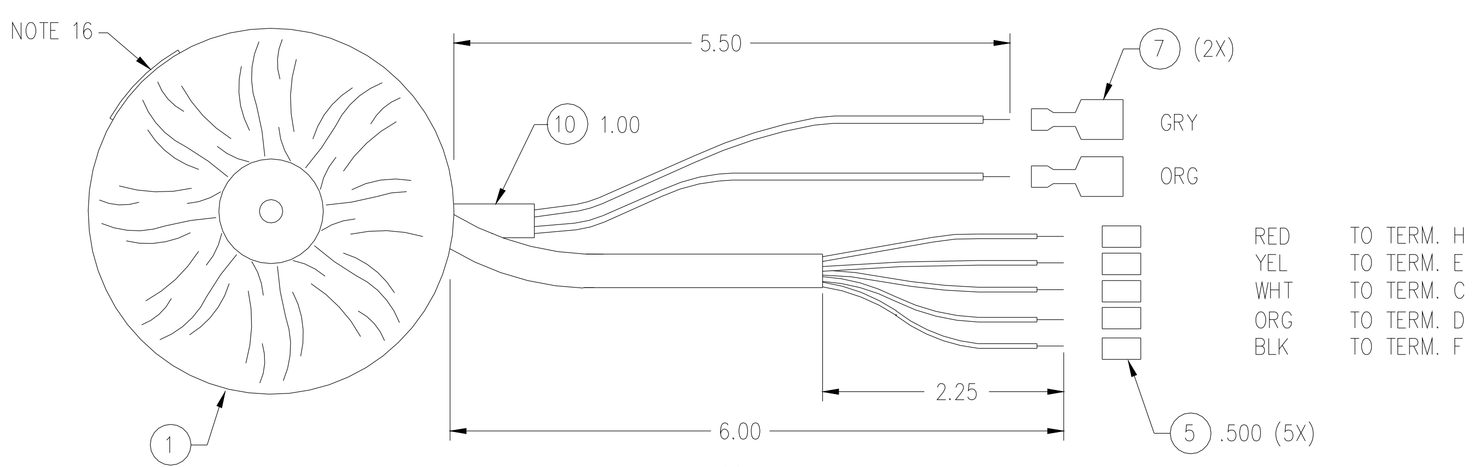
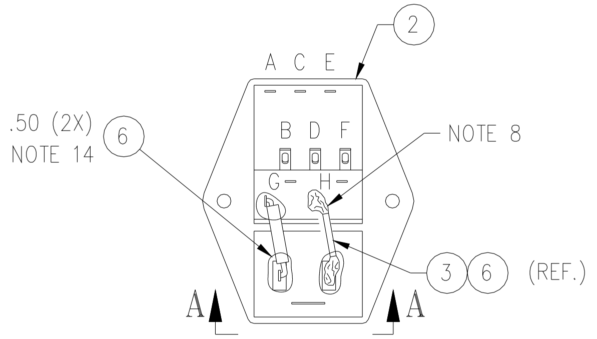
TITLE
ASSEMBLY: AB68
PCA, KEYBRD. INTRFC., 3500

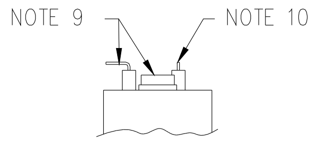
CAD SCALE	SHEET	DWG. NO.	REV.
2 : 1	1 OF 1	C94C650	G



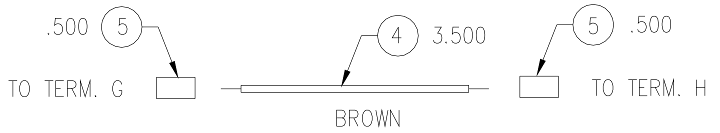
TRANSFORMER DETAIL



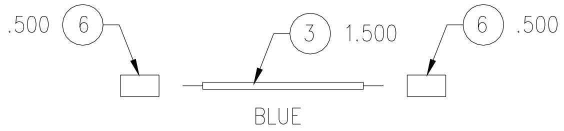
LINE FILTER DETAIL



PARTIAL VIEW A-A



WIRE DETAIL



WIRE DETAIL

NOTES

1. ALL WIRE ENDS TO BE STRIPPED .250 ±.015 AFTER CUTTING TO REQUIRED LENGTH.
2. CUT BLUE WIRE (ITEM 3) TO 1.500 LENGTH. TIN BOTH ENDS OF WIRE.
3. CUT BROWN WIRE (ITEM 4) TO 3.500. TIN ONE END OF WIRE.
4. ON TRANSFORMER, CUT ORANGE AND GRAY WIRES 5.50 FROM TRANSFORMER.
5. APPLY 1.00 LENGTH OF P/N WT05 HEAT SHRINK (ITEM 10) OVER ORANGE & GRAY WIRES AT LOCATION SHOWN AND SHRINK IN PLACE.
6. ON TRANSFORMER, CUT SLEEVING (CONTAINING MULTI WIRES) 6.00 FROM TRANSFORMER. STRIP SLEEVING BACK 2.25. TIN THE BLACK, YELLOW, ORANGE, WHITE, AND RED WIRES.
7. CRIMP TERMINAL (ITEM 7) TO ORANGE AND GRAY WIRES.
8. BEND TERMINAL "H" OUTWARD AT 45° ANGLE.
9. BEND LEFT FILTER TAB OUTWARD AT INSULATOR TO 90° BEND AS SHOWN IN VIEW A–A. CUT OFF UPPER HALF OF GROUND TAB.
10. CUT OFF UPPER HALF OF RIGHT TAB. PLACE TWO .500 PIECES OF P/N WT15 HEAT SHRINK (ITEM 6) ONTO 1.500 PIECE OF BLUE WIRE. J-HOOK WIRE ENDS AND SOLDER TO TERMINALS AS SHOWN IN LINE FILTER DETAIL.
11. PLACE A .500 PIECE OF HEAT SHRINK (ITEM 5) ONTO THE INDIVIDUAL WIRES AND ONTO THE TINNED TRANSFORMER WIRES. J-HOOK WIRE ENDS AND SOLDER TO TERMINALS AS INDICATED BY THE DESIGNATED TERMINAL LETTER. USE FLUX SPARINGLY.
12. IMPORTANT: DO NOT CLEAN FLUX FROM SOLDER CONNECTIONS. EXCESS FLUX IS A CRITERION FOR ACCEPT/REJECT.
13. ROUTE TO INSPECTION.
14. APPLY THE HEAT SHRINK OVER THE SOLDER JOINTS.
15. USE P/N M008A, RTV (ITEM 8) SPARINGLY TO COVER TERMINALS SHOWN IN LINE FILTER DETAIL.
16. PRINT ASSEMBLY NUMBER, REVISION, LOT NUMBER, AND ASSEMBLER INITIALS ONTO P/N L087, LABEL (ITEM 9). ATTACH LABEL TO TRANSFORMER CIRCUMFERENCE AS SHOWN.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
10	WT05	1.00	HEAT SHRINK, 3/16" I.D., BLACK
9	L087	1	LABEL, COMPTR. PRNTBL, 1.25 x .375
8	M008A	A/R	ADHESIVE/SEALANT, RTV, CLEAR, 732
7	PT23	2	FAST-ON, 16-14 AWG
6	WT15	1.00	HEAT SHRINK, 1/4" I.D., RED
5	WT01	3.50	HEAT SHRINK, 1/8" I.D., BLACK
4	W015	3.50	WIRE, 18 GAGE 19 X 30 BROWN UL-1430
3	W016	1.50	WIRE, 18 GAGE 19 X 30 BLUE UL-1430
2	HE08	1	LINE FILTER
1	T059	1	TRANSFORMER, TOROIDAL 117V/234V

REV.	DESCRIPTION	BY	DATE
J	PER ECN #7311	JWT	23SEP99
H	PER ECN #6835	CHY	25SEP98
G	PER ECN #6691	CHY	25JUN98
F	PER ECN #6251	SR	23JAN98
E	PER ECN #5912	CHY	22AUG97
D	PER ECN #5652	CHY	8APR97
C	PER ECN #5402	CHY	26NOV96
B	PER ECN #4784	CHY	2/26/96
A	RELEASE, ECN #4571	SR	10/13/95

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .25
.XXX = ± .062
ANGLES = ± ——

DRAWN	SR	9/29/95
DESIGNED	RS	9/25/95
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
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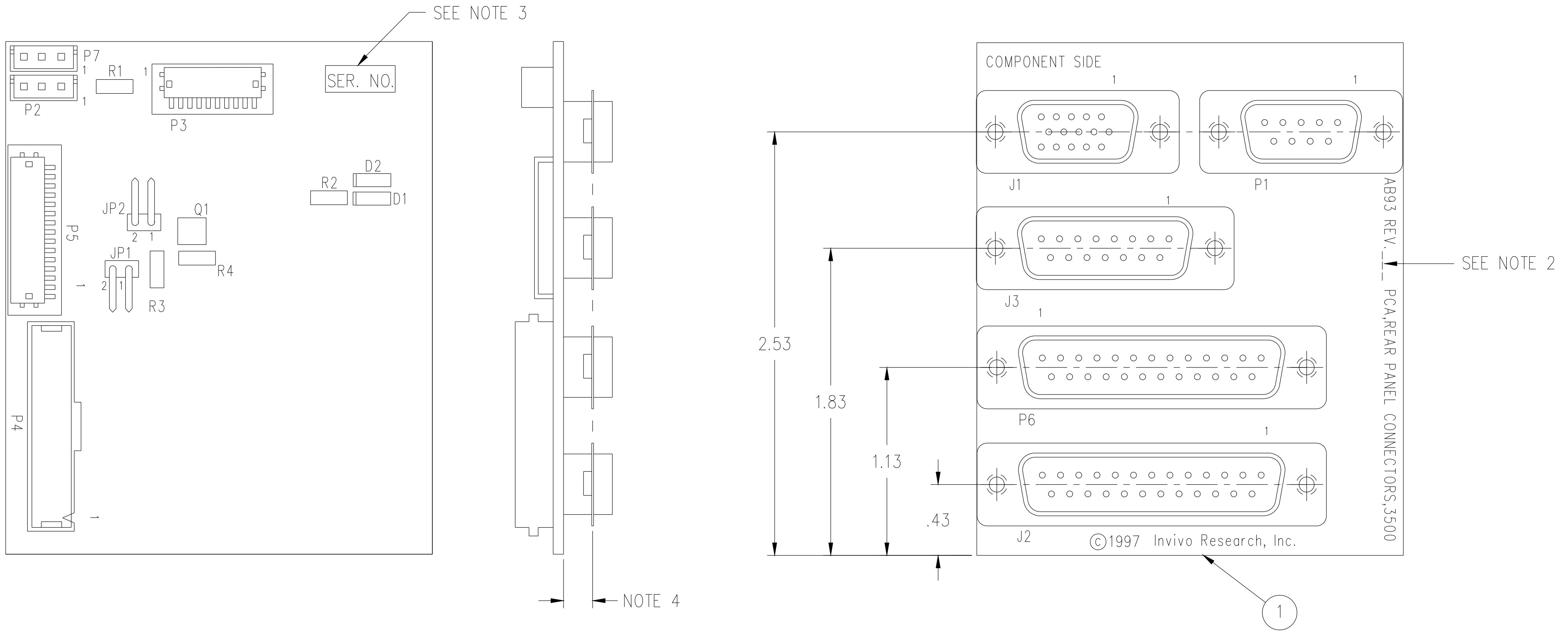
TITLE
SUB-ASSEMBLY: AS136
ASSY, MAINS INPUT AND TRNSFRMR, 3500

CAD SCALE	SHEET	DWG. NO.	REV.
NONE	1 OF 1	C94C689	J



Q1	QX00	1	TRANSISTOR, NPN, SILI, SO23, TYPE 2222
P6	PA304	1	CONN, DB25 MALE, ST, THD INSERTS
P5	PA261	1	CONN, 15P, SR. HDR, RA, SHRD, .049
P4	PA276	1	CONN, 40P, DR. HDR, SHRD, .050 CTRS
P3	PA263	1	CONN, 10P, SR. HDR, RA, SHRD, .049
P2, P7	PA294	2	CONN, 3P, SR.HDR, ST, SHRD, .098 CTRS
P1	PA279	1	CONN, DB9 RCPT, ST, P.C.MT, INSRTS
J3	PA281	1	CONN, DB15 RECPT, ST, P.C.MT, INSRT
J2	PA280	1	CONN, DB25 RCPT, ST, P.C.MT, INSRT
J1	PA282	1	CONN, DB15 VGA RCPT, ST, P.C.MT
JP1,JP2	PA41	2	HEADER, UNSH, SR, 2 PIN (.10)
R2,R4	RX57	2	RES, 10K, .125, 1%, 100PPM, 1206
R1,R3	RX23	2	RES, 1K+-5%, .125W, 200PPM, CHIP
D1,D2	DDX01	2	DIODE, SIGNAL, LEADLESS, 500mW
1	B165	1	PCB, REAR PANEL CONNECTORS, 3500 REV. F
ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION

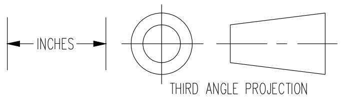
NOTES

1. WORKMANSHIP TO CONFORM TO IPC CLASS II REQUIREMENTS.
2. USING PERMANENT MARKER IN CONTRASTING COLOR, PLACE CURRENT ASSEMBLY REV. IN SPACE PROVIDED.
3. BOARD REQUIRES SERIALIZED LABELING WITH THE FOLLOWING INFORMATION: UNIQUE SERIAL NO., ASSEMBLY P/N & CURRENT REV. LEVEL. PLACE SERIAL NUMBER LABEL IN THIS AREA-ORIENT AS SHOWN.
4. CONNECTOR FLANGES TO BE IN-LINE WITH EACH OTHER AND PARALLEL TO SURFACE OF P.C. BOARD WITHIN .030. INSURE CONNECTORS ARE PROPERLY SEATED TO SURFACE OF P.C. BOARD BEFORE SOLDERING.

H	PER ECN #5581	JRB	25MAR97
G	PER ECN #5504	SLC	13JAN97
F	PER ECN #5461	SLC	16DEC96
E	PER ECN #5414	SLC	22NOV96
D	PER ECN #5190	SR	05AUG96
C	PER ECN #4932	JRB	4/9/96
B	PER ECN #4925	JRB	4/1/96
A	RELEASED, ECN #4799	JRB	2/2/96
REV.	DESCRIPTION	BY	DATE

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .02
.XXX = ± ——
ANGLES = ± ——

DRAWN	SR	11/20/95
DESIGNED	SLN	6/16/94
CHECKED		
APPROVED		



THIRD ANGLE PROJECTION

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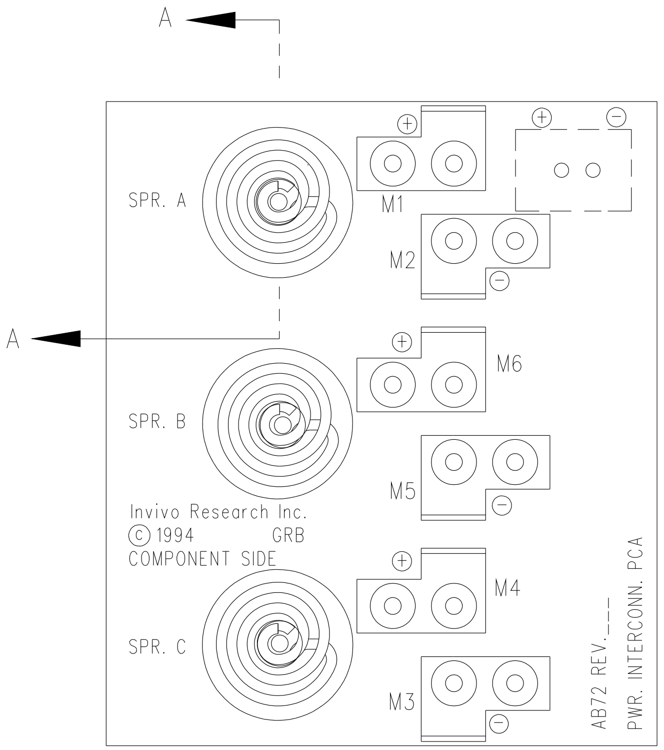
TITLE ASSEMBLY: AB93
PCA, REAR PANEL CONNECTORS, 3500

CAD SCALE	SHEET	DWG. NO.	REV.
2 : 1	1 OF 1	C94C692	H


A
A
⊕
⊕ ⊖
SPR. A
M1
M2
⊖
⊕
M6
SPR. B
M5
⊖
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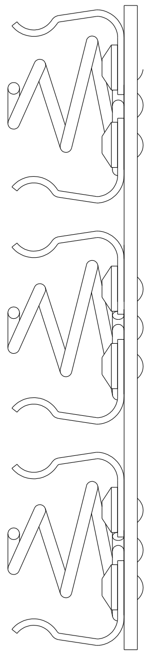
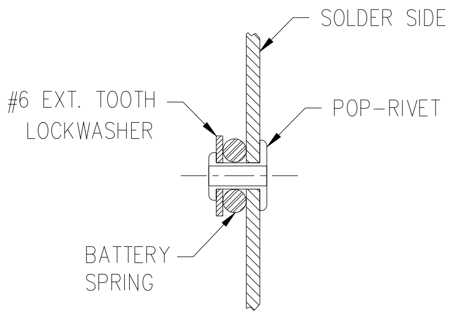
COMPONENT SIDE
⊕
M4
SPR. C
M3
⊖
AB72 REV.___
PWR. INTERCONN. PCA




SOLDER SIDE
#6 EXT. TOOTH LOCKWASHER
POP-RIVET
BATTERY SPRING

SECTION A-A

CAD SCALE: 4 : 1

NOTES

1. INSTALL BATTERY CONTACTS USING 1/8" DIA X 3/16" LG. BRASS EYELETS. EYELETS TO BE FIRMLY SWAGED OVER ON COMPONENT SIDE.

2. INSTALL BATTERY SPRINGS USING 1/8" DIA. ALUMINUM POP-RIVETS AS SHOWN IN SECTION A-A.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
SPR A,B,C	HM50M	3	SPRING, BATTERY EJECTOR, 3500
M1-M6	HM50AB	6	BATTERY CONTACT, OMNI-TRACK 3500
1	B151	1	PCB, POWER INTERCONNECT REV. C

REV.	DESCRIPTION	BY	DATE
D	PER ECN #5320	SR	26NOV96
C	PER ECN #5048	SLC	02JUL96
B	PER ECN #4998	JRB	4/22/96
A	RELEASED, ECN #4793	JRB	2/7/96

REV.	DESCRIPTION	BY	DATE
E	PER ECN #7615	CHY	16AUG00

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± ___
.XXX = ± ___
ANGLES = ± ___

DRAWN	JRB	2/7/96
DESIGNED	SLN	6/16/94
CHECKED		
APPROVED		

← INCHES →

THIRD ANGLE PROJECTION

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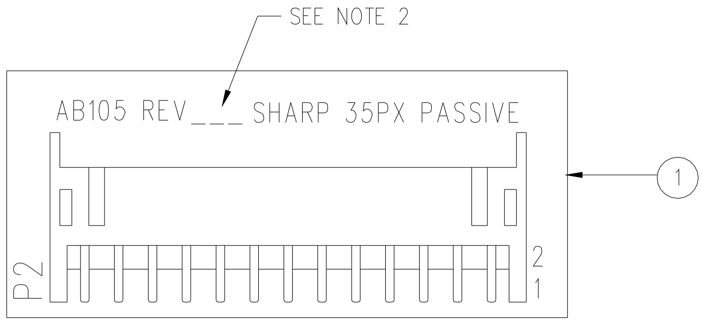
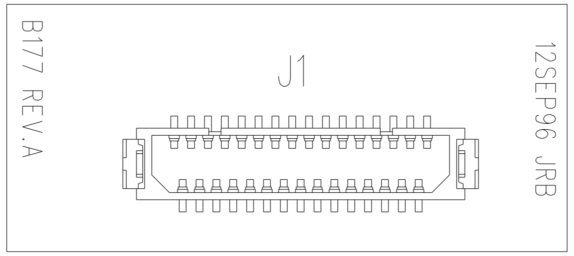
TITLE ASSEMBLY: AB72
PCA, POWER INTERCONNECT 3500

CAD SCALE	SHEET	DWG. NO.	REV.
2 : 1	1 OF 1	C94C706	E





NOTES

1. WORKMANSHIP TO CONFORM TO IPC CLASS II REQUIREMENTS.
2. USING INDELIBLE INK IN CONTRASTING COLOR, PLACE CURRENT ASSEMBLY REV. IN SPACE PROVIDED.

P2	PA290	1	CONN, 26P, DR. HDR, RA, SHRD, .079
J1	PA288	1	CONN, 31P, BD-BD. RCPT, .039, SMT.
1	B177	1	PCB, SHARP 35PX PASS.CABLE ADPT, REV.A
ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION

A	RELEASED, ECN#5264	JRB	16SEP96
REV.	DESCRIPTION	BY	DATE

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.XX = ± ——
.XXX = ± ——
ANGLES = ± ——

DRAWN	JRB	16SEP96
DESIGNED	JRB	13SEP96
CHECKED		
APPROVED		

INCHES

THIRD ANGLE PROJECTION

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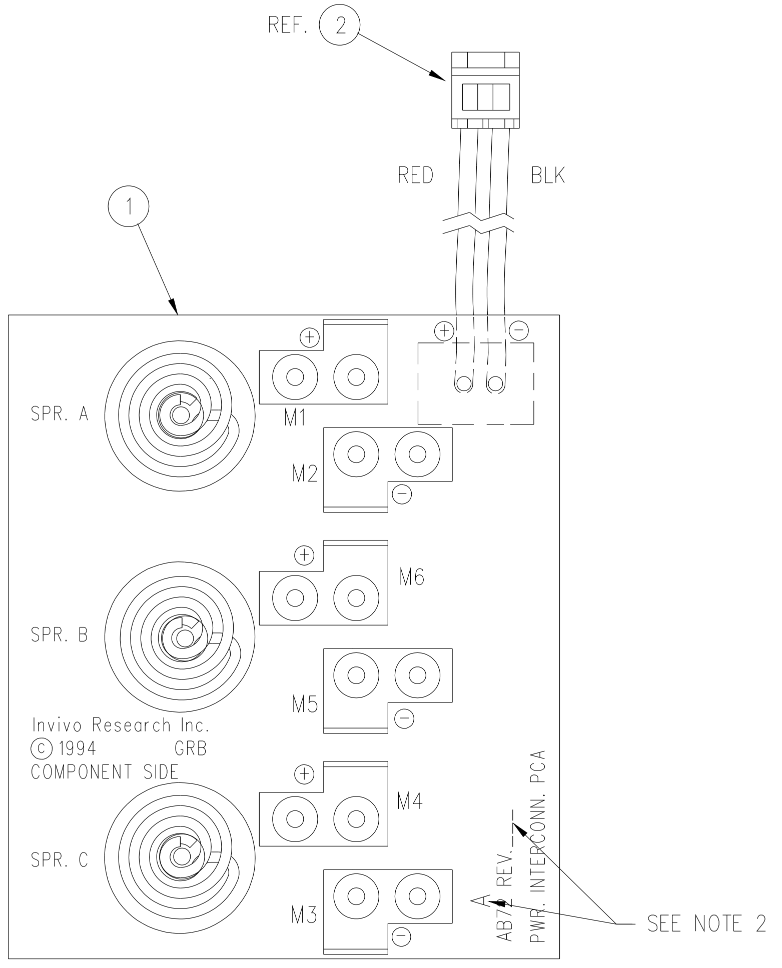
TITLE ASSEMBLY: AB105
PCA, SHARP 35PX PASS.CABLE ADPT

CAD SCALE	SHEET	DWG. NO.	REV.
4 : 1	1 OF 1	C94C735	A


REF. ②
RED
BLK
①
⊕
⊖
SPR. A
M1
M2
SPR. B
M6
M5
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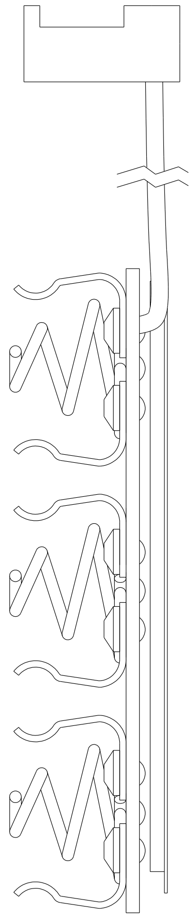
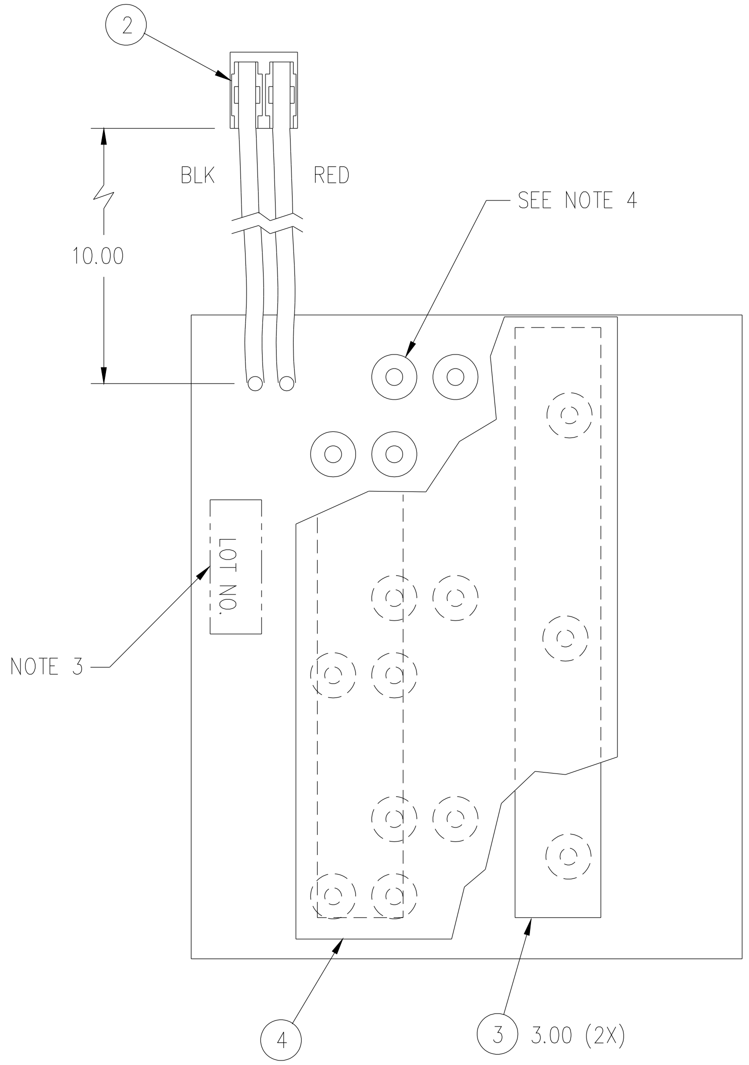
COMPONENT SIDE
SPR. C
M4
M3
AB72 REV. A
PWR. INTERCONN. PCA
SEE NOTE 2




②
BLK
RED
10.00
SEE NOTE 4
LOT NO.
NOTE 3
④
③ 3.00 (2X)

NOTES

1. WORKMANSHIP TO CONFORM TO IPC CLASS II REQUIREMENTS.
2. USING INDELIBLE INK IN CONTRASTING COLOR, PRINT AN "A" AFTER AB72 & CURRENT ASSEMBLY REV. IN SPACE PROVIDED
3. USING INDELIBLE INK IN CONTRASTING COLOR, PRINT LOT NUMBER IN AREA SHOWN, ON SOLDERSIDE.
4. SOLDER EYELETS (12X) ON BOTH SIDES OF BOARD.
5. SOLDER P/N AC267, BATTERY CABLE (ITEM 2) AS SHOWN.
6. ROUTE TO INSPECTION.
7. CUT P/N M000, DS TAPE (ITEM 3) INTO TWO EQUAL LENGTHS TO ATTACH P/N HM50AU, INSULATOR (ITEM 4) AS SHOWN.

4	HM50AW	1	INSULATOR, PWR. INTCN.
3	M000	6.00	TAPE, OPN.CL.FM, DS, .06THK.X.38W
2	AC267	1	CAB, BATTERY, OMNI-TRAK 3500
1	AB72	1	PCB, POWER INTERCONNECT
ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION

d	PER ECN #7693	CHY	17MAR00
C	PER ECN #6104	KCO	10NOV97
B	PER ECN #5493	CHY	31JAN97
A	RELEASED, ECN #5320	SR	26NOV96
REV.	DESCRIPTION	BY	DATE

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UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± ——
.XXX = ± ——
ANGLES = ± ——

DRAWN	SR	26NOV96
DESIGNED	DM	22NOV96
CHECKED		
APPROVED		

← INCHES →

THIRD ANGLE PROJECTION

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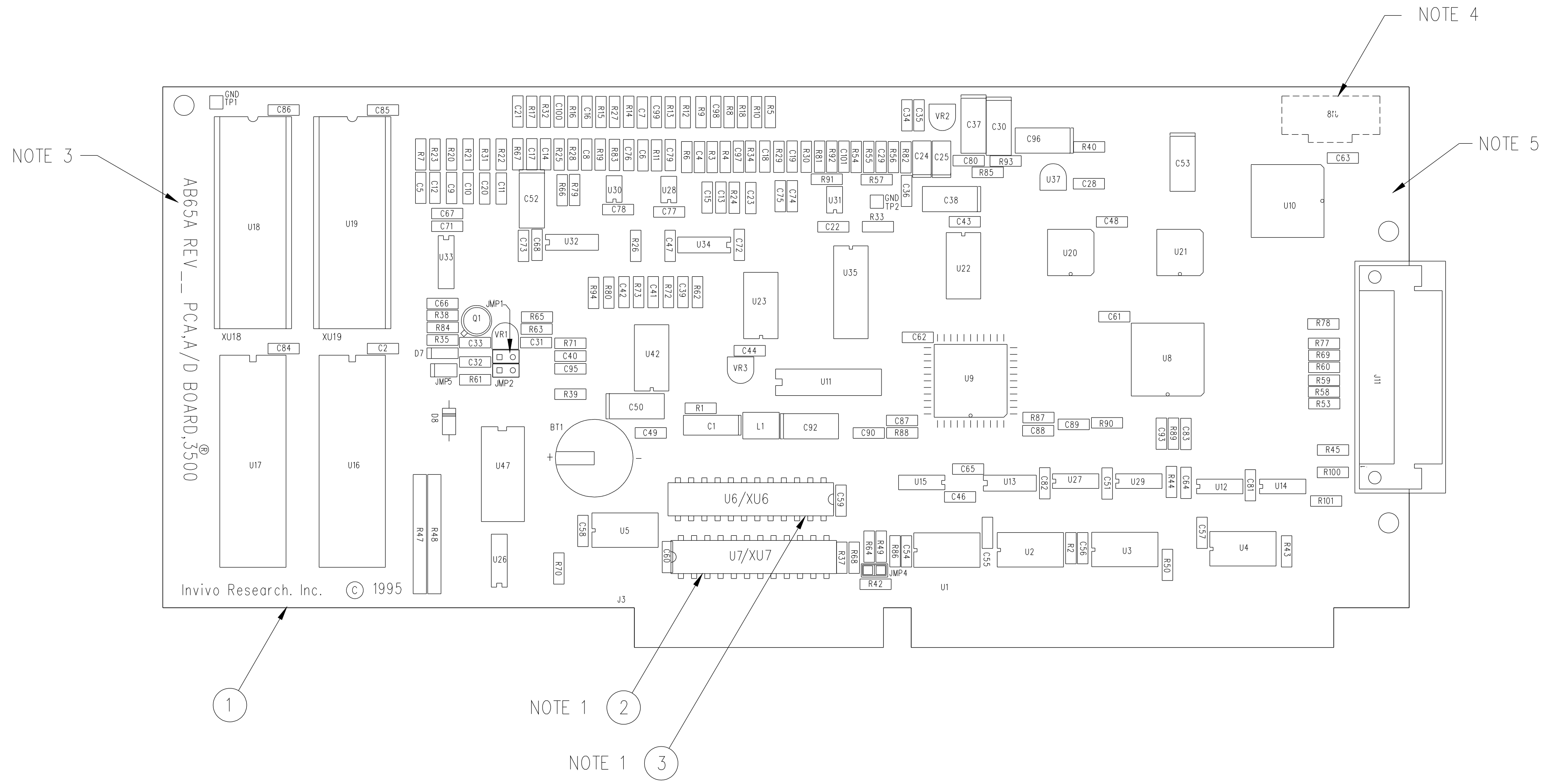
TITLE ASSEMBLY: AB72A
PCA, POWER INTRCNCT. W/CABLE, 3500

CAD SCALE	SHEET	DWG. NO.	REV.
2 : 1	1 OF 1	C94C740	D


NOTE 4
NOTE 5
NOTE 3
AB65A REV_ PCA,A/D BOARD,3500 ®
Invivo Research, Inc. © 1995
U18
U19
XU18
XU19
U17
U16
U47
U6/XU6
U7/XU7
U9
U8
U10
U11
J11
J3
BT1
1
NOTE 1 2
NOTE 1 3

NOTES

1. INSTALL P/N AM47 PROM SET A (ITEM 2) AT U7 AND P/N AM48 PROM SET B (ITEM 3) AT U6.
2. TEST BOARD PER CURRENT REVISION OF TP053 TEST PROCEDURE
3. CHANGE PART NUMBER ON BOARD AND SERIAL NUMBER LABEL TO: AB65A
4. PLACE S/N LABEL ON FLATSIDE OF J18, ON SOLDER SIDE.
5. AFFIX TEST STAMP.

3	AM48	1	PROM SET, A/D, B, 3500
2	AM47	1	PROM SET, A/D, A, 3500
1	AB65	1	PCA, A/D, 3500
ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION

C	PER ECN #8181	CHY	22MAR01
B	PER ECN #5810	CHY	10JUL97
A	RELEASED, ECN #5487	SR	21FEB97
REV.	DESCRIPTION	BY	DATE

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± ——
.XXX = ± ——
ANGLES = ± ——

DRAWN	SR	18FEB97
DESIGNED	LE	18FEB97
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
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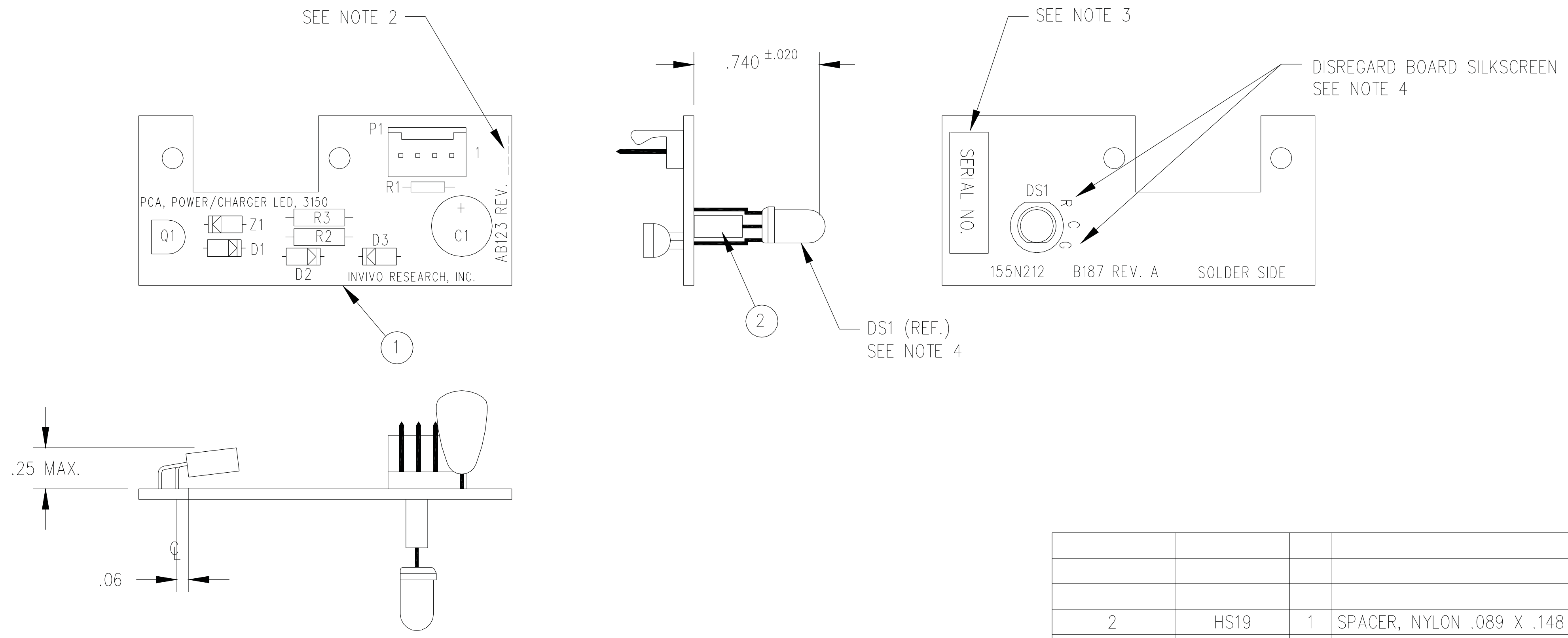
TITLE: ASSEMBLY: AB65A
ASSY, A/D PCA, 3500

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
1 : 1	1 OF 1	C94C744	C


SEE NOTE 2
P1
1
R1
PCA, POWER/CHARGER LED, 3150
Q1
Z1
D1
R3
R2
D3
D2
+
C1
AB123 REV.
INVIVO RESEARCH, INC.
①
.740 ±.020
②
DS1 (REF.)
SEE NOTE 4
SEE NOTE 3
DISREGARD BOARD SILKSCREEN
SEE NOTE 4
SERIAL NO.
DS1
R
C
G
155N212
B187 REV. A
SOLDER SIDE
.25 MAX.
℄
.06

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
2	HS19	1	SPACER, NYLON .089 X .148 X .310
R1	RF201	1	RES, 150 OHM, .125W, 1%, MF
R3	RF39	1	RES, 1.24K, .25W, 1%, MF
R2	R033	1	RES, 470 OHM, .25W, 5%, CF
Q1	Q038	1	TRANS, PNP, MPSW51
P1	PA344	1	CONN, SR, 4P, HDR, DT, LCKG, .100 CTRS
Z1	DZ08	1	ZENER, 1N52458, 15V, 500mW
DS1	DL28	1	LED, BI-COLOR, RED/GREEN, T1 3/4
D1, D2, D3	D000	3	DIODE, SIGNAL, 1N4148
C1	CT23	1	CAP, 47uF, 20%, 35V, RADIAL, TANT.
1	B187	1	PCB, POWER/CHARGER LED, 3150, REV. A

NOTES

1. WORKMANSHIP TO CONFORM TO IPC CLASS II REQUIREMENTS.
2. USING INDELIBLE INK IN CONTRASTING COLOR, PLACE CURRENT ASSEMBLY REV. IN SPACE PROVIDED.
3. BOARD REQUIRES SERIALIZED LABELING WITH THE FOLLOWING INFORMATION: UNIQUE SERIAL NO., ASSEMBLY P/N & CURRENT REV. LEVEL. PLACE SERIAL NUMBER LABEL IN THIS AREA-ORIENT AS SHOWN.
4. INSTALL LED DS1 PERPENDICULAR TO BOARD (±3°) ORIENTED AS SHOWN BY FLAT SIDE AND LEAD SHAPE.

REV.	DESCRIPTION	BY	DATE
C	PER ECN #8271	CHY	16MAR01
B	PER ECN #6669	CHY	30OCT98
A	RELEASED, ECN #6432	JRB	19MAR98

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .02
.XXX = ± .010
ANGLES = ± 1°

DRAWN	JRB	19MAR98
DESIGNED	JRB	19MAR98
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
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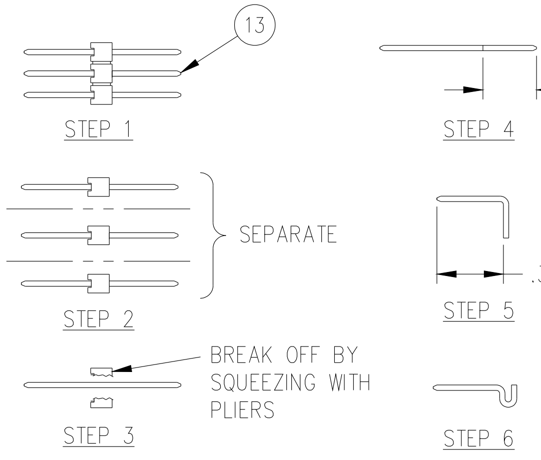
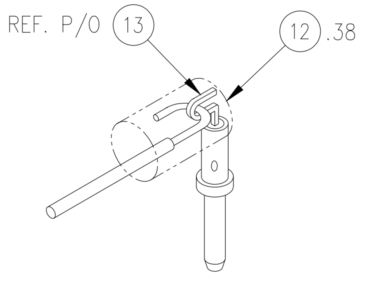
TITLE:
ASSEMBLY: AB123
PCA, POWER/CHARGER LED, 3150

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
1 : 1	1 of 1	C94C799	C



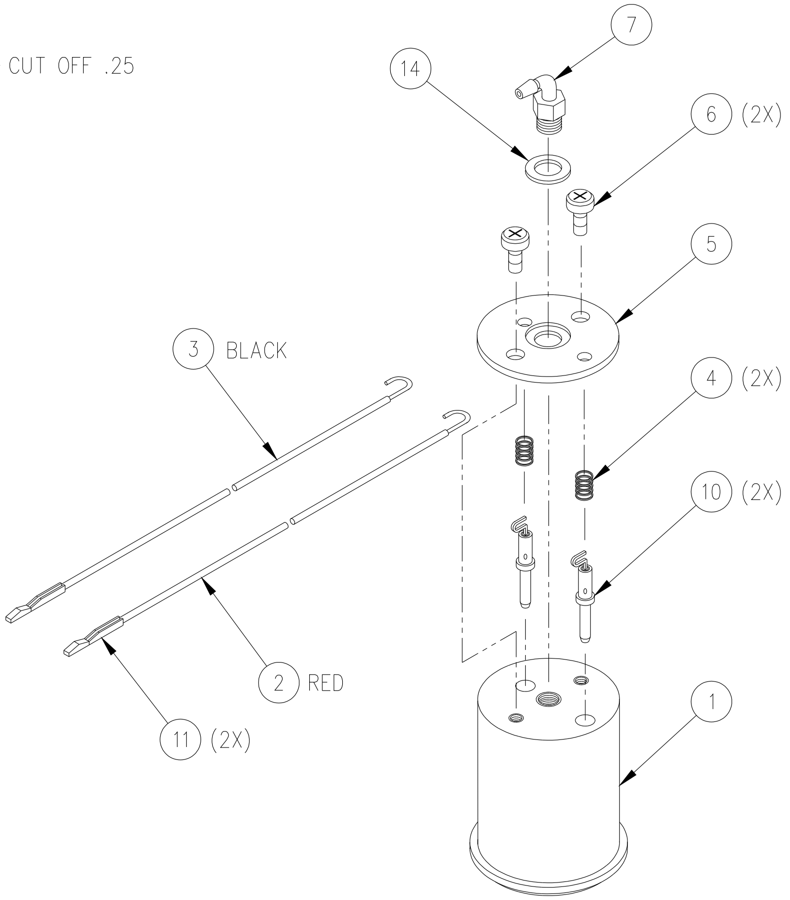
PIN FABRICATION DETAIL

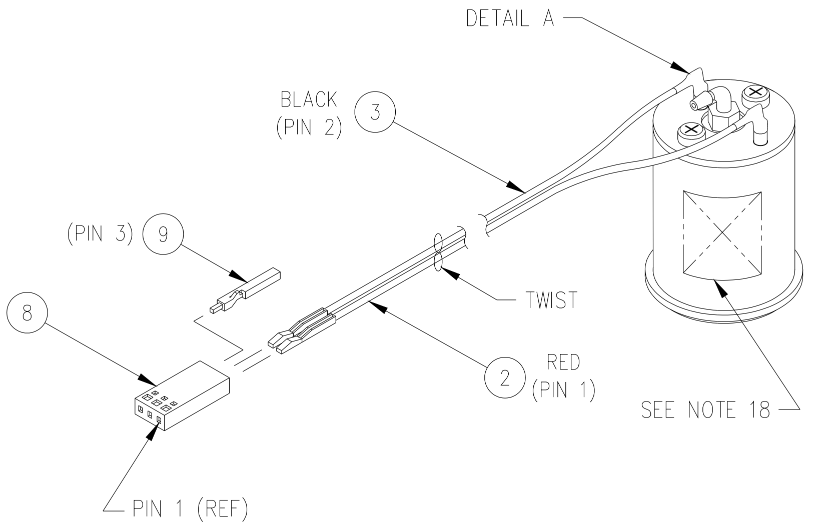
SCALE: 2 : 1



DETAIL A

SCALE: 2 : 1





NOTES:

1. CUT WIRES (ITEMS 2 & 3) TO 10.50 LENGTHS.
2. STRIP WIRES FOR P/N PT07B CONTACT (ITEM 11) ON ONE END AND FOR P/N PA379 PIN (ITEM 10) ON THE OTHER END PER AI046.
3. TIN THE END STRIPPED FOR PA379 PIN.
4. CRIMP PT07B CONTACT ON THE UNTINNED END.
5. ROUTE TO INSPECTION.
6. PREPARE PINS FROM P/N PA08A HEADER (ITEM 13) AS SHOWN IN PIN FABRICATION DETAIL.
7. INSERT AND SOLDER THE PINS INTO PA379 PINS, ENSURING THERE ARE NO SOLDER LUMPS OR TAILS ON EXTERIOR DIAMETER OF PIN BARREL.
8. PLACE PA379 PINS INTO HOLES IN P/N HM70T COUPLER (ITEM 1).
9. SLIP P/N HM70W SPRINGS (ITEM 4) OVER THE PINS.
10. SLIDE P/N HM70U END CAP (ITEM 5) OVER PINS AND MOUNT TO HM70T COUPLER USING TWO P/N NS04 SCREWS (ITEM 6). ENSURE PINS WORK FREELY IN COUPLER BEFORE TIGHTENING.
11. J-HOOK AND SOLDER RED WIRE TO THE PIN IN THE OUTER HOLE IN HM70T AND THE BLACK WIRE TO THE PIN IN THE INNER HOLE AS SHOWN. ENSURE PINS WORK FREELY IN COUPLER AFTER SOLDERING.
12. ROUTE TO INSPECTION.
13. SLIDE .38 LENGTH OF P/N WT04 HEATSHRINK (ITEM 12) OVER SOLDER CONNECTIONS AND SHRINK IN PLACE.
14. MOUNT P/N HP130 FITTING (ITEM 7) WITH P/N HP14 GASKET (ITEM 14) INTO HM70T COUPLER.
15. TWIST TERMINATED WIRES APPROXIMATELY 1 TURN PER INCH AND INSERT INTO P/N PA20 HOUSING (ITEM 8).
16. INSERT P/N PA12 KEYING PLUG (ITEM 9) INTO PA20 HOUSING, PIN 3.
17. ORIENT WIRES TO FACE SAME DIRECTION AS HP130 ELBOW FITTING.
18. USING A PERMANENT MARKER OF CONTRASTING COLOR, PRINT ASSEMBLY NUMBER, REVISION, LOT NUMBER & ASSEMBLER INITIALS IN AREA SHOWN.
19. ROUTE TO INSPECTION.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
14	HP14	1	GASKET, BARB 11761 BULK
13	PA08A	1	CONN., 3P, SR, HDR, .31 SOLDERTAIL
12	WT04	.75	HEAT SHRINK, 3/32" I.D., BLACK
11	PT07B	2	CNCT., LKG.CLP, 26-22 AWG, GOLD, ST
10	PA379	2	PIN, PRINTED CIRCUIT, .080 DIA.
9	PA12	1	KEYING PLUG (.10)
8	PA20	1	HOUSING, SINGLE ROW, 3 PIN (.10)
7	HP130	1	FITTING, 1/16 ID X #10-32 MALE ELBOW, PVDF
6	NS04	2	SCR, #4-40 X 1/4" LG, PHMS-XR, ZN
5	HM70U	1	END CAP, COUPLER, FiO2 SENSOR
4	HM70W	2	SPRING, CONTACT, FiO2 SENSOR
3	W047	10.50	26 GA., 19 x 38, BLACK, UL-1429
2	W038	10.50	26 GA., 19 x 38, RED, UL-1429
1	HM70T	1	COUPLER, FiO2 SENSOR

REV.	DESCRIPTION	BY	DATE
D	PER ECN #7950	SR	18AUG00
C	PER ECN #7352	CHY	9DEC99
B	PER ECN #6891	CHY	4NOV98
A	RELEASED, ECN #6664	RLM	08JUN98

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± --
.XXX = ± ---
ANGLES = ± --

DRAWN	RLM	08JUN98
DESIGNED	RLM	DATE
CHECKED		
APPROVED		

← INCHES →
THIRD ANGLE PROJECTION
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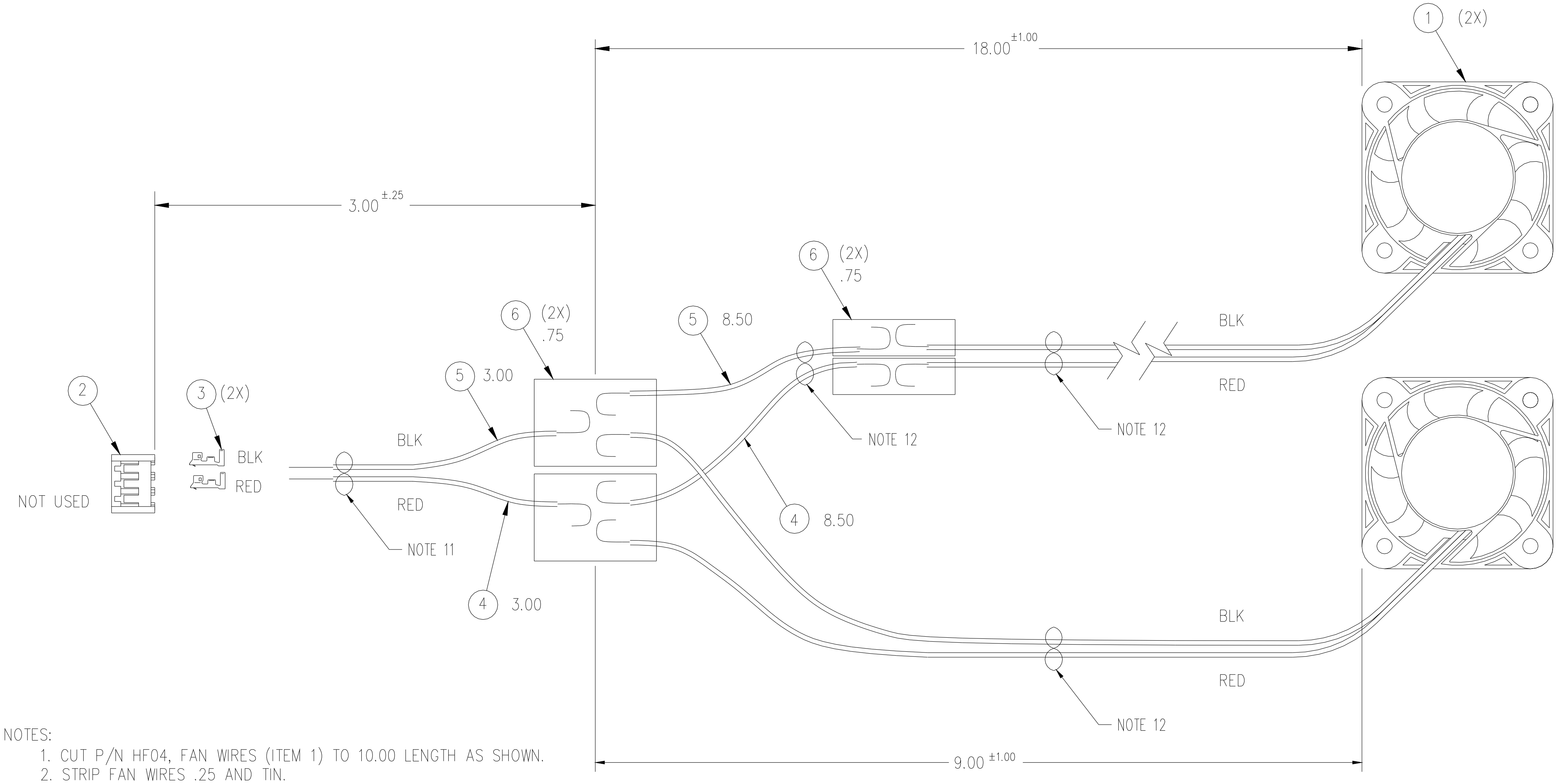
TITLE:
ASSEMBLY: AP50
FiO2 SENSOR COUPLER, 3500

CAD SCALE: 1 : 1
SHEET: 1 of 1
DWG. NO.: C94C811
REV.: D

ECN5877

LF20 REV. A



NOTES:
1. CUT P/N HF04, FAN WIRES (ITEM 1) TO 10.00 LENGTH AS SHOWN.
2. STRIP FAN WIRES .25 AND TIN.
3. CUT P/N W038 & W047 WIRES (ITEMS 4 & 5) TO 3.00.
4. STRIP ONE END P/N W038 & W047, WIRES .25 AND TIN.
5. STRIP OTHER END P/N W038 & W047 FOR P/N PT33 CONTACT (ITEM 3) PER AI046
6. CRIMP P/N PT33, TERMINALS (ITEM 3) ONTO THE WIRE ENDS.
7. CUT W038 & W047 WIRES TO 8.50. STRIP AND TIN BOTH ENDS .25.
8. J-HOOK AND SOLDER WIRES TO ONE FAN AS SHOWN.
9. ROUTE TO INSPECTION.
10. ADD .75 LENGTH OF P/N WT01 HEAT SHRINK (ITEM 6) TO COVER SOLDER JOINTS.
11. INSERT TERMINALS INTO P/N PA249, HOUSING (ITEM 2) AS SHOWN, AND TWIST WIRES 1-2 TURNS PER INCH.
12. TWIST FAN WIRES 1-2 TURNS PER INCH, ADD .75 LENGTH OF P/N WT01 HEAT SHRINK (ITEM 6) AND J-HOOK WITH WIRES AS SHOWN.
13. ROUTE TO INSPECTION.
14. SHRINK WT01 OVER CONNECTIONS AS SHOWN.
15. USING INDELIBLE INK IN CONTRASTING COLOR, PRINT ASSEMBLY NUMBER, REVISION, LOT NUMBER AND ASSEMBLER INITIALS ON SIDE OF ONE FAN.
16. ROUTE TO INSPECTION.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
6	WT01	3.00	HEAT SHRINK, 1/8 ID, BLACK
5	W047	11.50	WIRE, 26 GAGE 19 X 38, BLACK UL-1429
4	W038	11.50	WIRE, 26 GAGE 19 X 38, RED UL-1429
3	PT33	2	CONTACT, CRIMP SOCKET, #22-#30 AWG
2	PA294A	1	CONN, 3P, SR, HSG, ST, .098 CTRS
1	HF04	2	FAN, 12V, D.C., BRUSHLESS, 5.3 CFM, 40MM

REV.	DESCRIPTION	BY	DATE
B	PER ECN # 7237	KCO	14JUN99
A	RELEASED, ECN #7114	KCO	28MAY99

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.XX = ±.12
.XXX = ±.062
ANGLES = ± ——

DRAWN	KCO	28MAY99
DESIGNED	KCO	28MAY99
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
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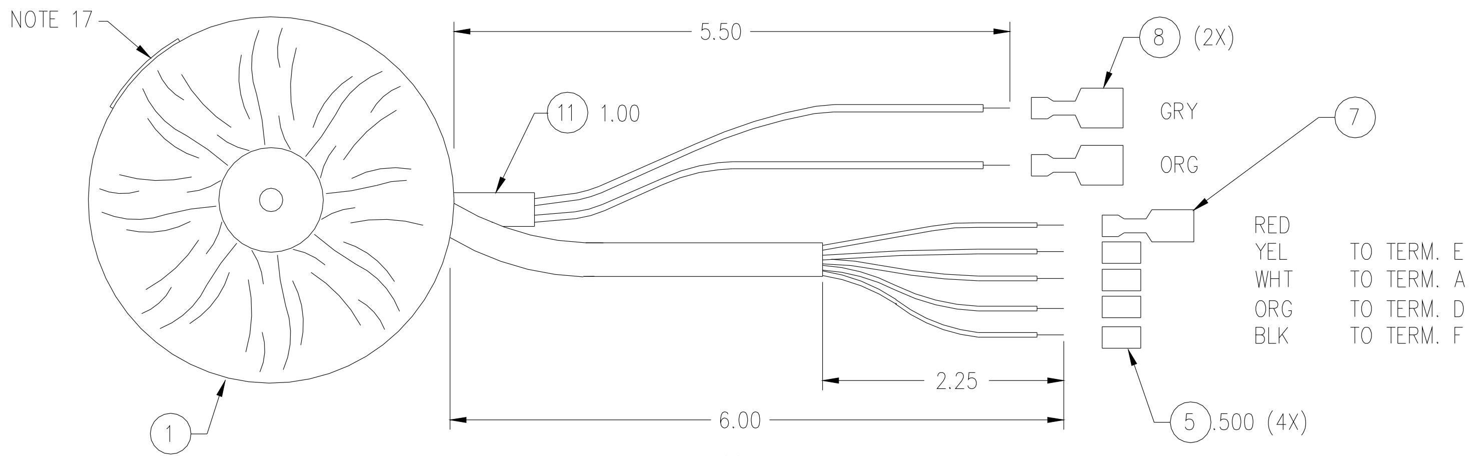
TITLE: ASSY: AS141A
FAN, DUAL, 3500

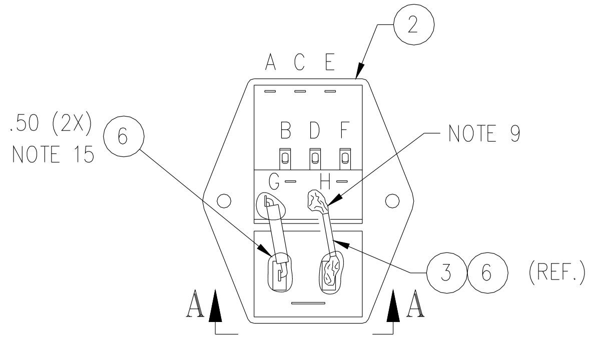
CAD SCALE:	SHEET:	DWG. NO.:	REV.:
NONE	1 OF 1	C94C843	B

ECN5877

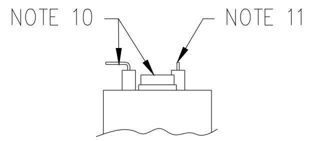
LF20 REV. A



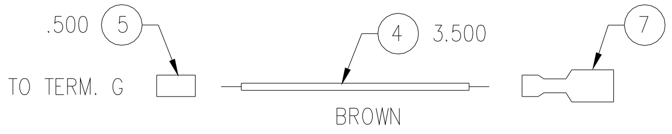
TRANSFORMER DETAIL



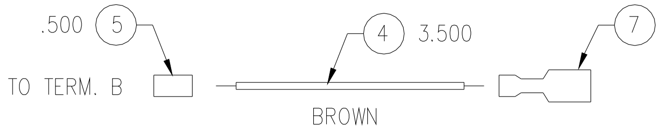
LINE FILTER DETAIL



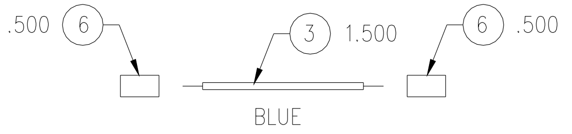
PARTIAL VIEW A-A



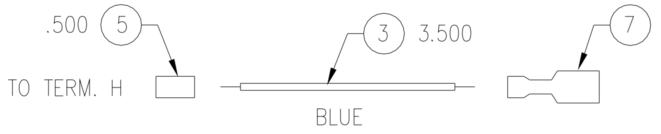
WIRE DETAIL



WIRE DETAIL



WIRE DETAIL



WIRE DETAIL

NOTES

1. ALL WIRE ENDS TO BE STRIPPED .250 $^{\pm .015}$ AFTER CUTTING TO REQUIRED LENGTH.
2. CUT BLUE WIRE (ITEM 3) TO 3.500 AND 1.500 LENGTH. TIN ONE END OF 3.500 WIRE. TIN BOTH ENDS OF 1.500 WIRE.
3. CUT BROWN WIRES (ITEM 4) TO 3.500. TIN ONE END OF EACH WIRE.
4. ON TRANSFORMER, CUT ORANGE AND GRAY WIRES 5.50 FROM TRANSFORMER.
5. APPLY 1.00 LENGTH OF P/N WT05 HEAT SHRINK (ITEM 11) OVER ORANGE & GRAY WIRES AT LOCATION SHOWN AND SHRINK IN PLACE.
6. ON TRANSFORMER, CUT SLEEVING (CONTAINING MULTI WIRES) 6.00 FROM TRANSFORMER. STRIP SLEEVING BACK 2.25. TIN THE BLACK, YELLOW, ORANGE, AND WHITE WIRES.
7. CRIMP TERMINAL (ITEM 8) TO ORANGE AND GRAY WIRES.
8. CRIMP TERMINAL (ITEM 7) TO RED WIRE FROM TRANSFORMER, TO INDIVIDUAL BROWN WIRES (UNTINNED END), AND 3.500 BLUE WIRE (UNTINNED END).
9. BEND TERMINAL "H" OUTWARD AT 45° ANGLE.
10. BEND LEFT FILTER TAB OUTWARD AT INSULATOR TO 90° BEND AS SHOWN IN VIEW A-A. CUT OFF UPPER HALF OF GROUND TAB.
11. CUT OFF UPPER HALF OF RIGHT TAB. PLACE TWO .500 PIECES OF P/N WT15 HEAT SHRINK (ITEM 6) ONTO 1.500 PIECE OF BLUE WIRE. J-HOOK WIRE ENDS AND SOLDER TO TERMINALS AS SHOWN IN LINE FILTER DETAIL.
12. PLACE A .500 PIECE OF HEAT SHRINK (ITEM 5) ONTO THE INDIVIDUAL WIRES AND ONTO THE TINNED TRANSFORMER WIRES. J-HOOK WIRE ENDS AND SOLDER TO TERMINALS AS INDICATED BY THE DESIGNATED TERMINAL LETTER. USE FLUX SPARINGLY.
13. IMPORTANT: DO NOT CLEAN FLUX FROM SOLDER CONNECTIONS. EXCESS FLUX IS A CRITERION FOR ACCEPT/REJECT.
14. ROUTE TO INSPECTION.
15. APPLY THE HEAT SHRINK OVER THE SOLDER JOINTS.
16. USE P/N M008A, RTV (ITEM 9) SPARINGLY TO COVER TERMINALS SHOWN IN LINE FILTER DETAIL.
17. PRINT ASSEMBLY NUMBER, REVISION, LOT NUMBER, AND ASSEMBLER INITIALS ONTO P/N L087, LABEL (ITEM 10). ATTACH LABEL TO TRANSFORMER CIRCUMFERENCE AS SHOWN.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
11	WT05	1.00	HEAT SHRINK, 3/16" I.D., BLACK
10	L087	1	LABEL, COMPTR. PRNTBL, 1.25 x .375
9	M008A	A/R	ADHESIVE/SEALANT, RTV, CLEAR, 732
8	PT23	2	FAST-ON, 16-14 AWG
7	PT04	4	TERMINAL, RECPT., 2-520193-2
6	WT15	1.00	HEAT SHRINK, 1/4" I.D., RED
5	WT01	3.50	HEAT SHRINK, 1/8" I.D., BLACK
4	W015	7.00	WIRE, 18 GAGE 19 X 30 BROWN UL-1430
3	W016	5.00	WIRE, 18 GAGE 19 X 30 BLUE UL-1430
2	HE08	1	LINE FILTER
1	T059J	1	TRANSFORMER, TOROIDAL 100V

REV.	DESCRIPTION	BY	DATE
A	RELEASE, ECN #7252	CHY	19JUL99

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .25
.XXX = ± .062
ANGLES = ± ——

DRAWN	CHY	19JUL99
DESIGNED	JWT	19JUL99
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
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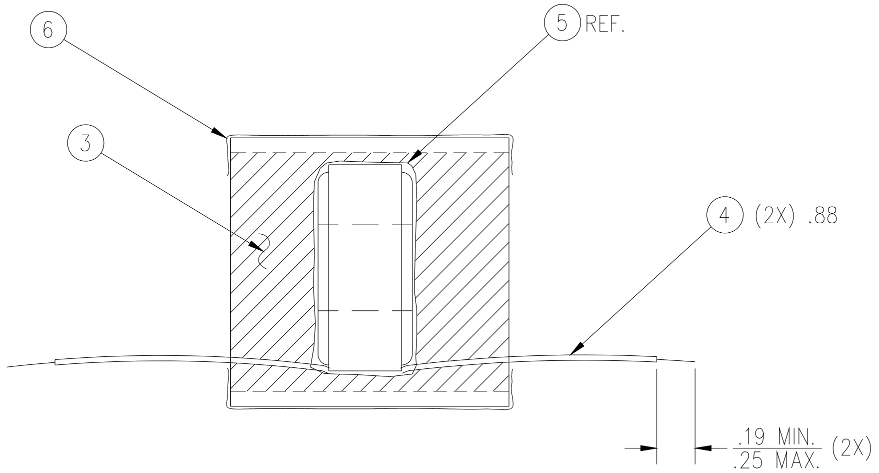
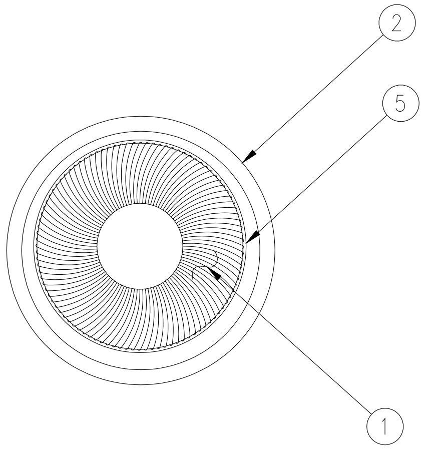
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE
SUB-ASSEMBLY: AS136J
ASSY, MAINS INPUT AND TRNSFRMR, 3500

CAD SCALE	SHEET	DWG. NO.	REV.
NONE	1 OF 1	C94C848	A





NOTES

1. REMOVE ANY INSULATING COATING ON P/N T042 LEADS (ITEM 1) AND TIN TO .30 MINIMUM.
2. COVER P/N T042 LEADS WITH P/N WT07 HEAT SHRINK (ITEM 5). ADJUST LENGTH OF P/N WT07 TO LEAVE .19 TO .25 OF EXPOSED TINNED LEAD AND SHRINK IN PLACE.
3. PLACE P/N T042 INDUCTOR (ITEM 1) INSIDE P/N HM50CG SHIELD (ITEM 2) WITH ONE INDUCTOR LEAD EXTENDING FROM EACH END OF SHIELD AS SHOWN.
4. CENTER .38 LENGTH OF P/N WT25 (ITEM 5) HEAT SHRINK OVER T042 INDUCTOR AND SHRINK IN PLACE.
5. SECURE INDUCTOR CENTRALLY AS SHOWN WITH P/N M008A RTV ADHESIVE (ITEM 4), BEING CAREFUL TO KEEP INDUCTOR LEAD WIRES FROM CONTACTING SHIELD.
6. CENTER .88 LENGTH OF P/N WT03 HEAT SHRINK (ITEM 6) OVER ASSY AND SHRINK IN PLACE.
7. ROUTE TO INSPECTION.

6	WT03	.88	HEAT SHRINK, 3/4 ID, BLACK
5	WT25	.375	HEAT SHRINK, 1/2 I.D., BLACK, ADHESIVE
4	WT07	1.75	HEAT SHRINK, 3/64 ID, BLACK
3	M008A	REF.	ADHESIVE/SEALANT, RTV, CLEAR, 732
2	HM50CG	1	SHIELD, INDUCTOR, 3155A
1	T042	1	INDUCTOR, 100UH
ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION

B	PER ECN #8889	CHY	20AUG02
A	RELEASED, ECN #7512	KCO	18JAN00
REV.	DESCRIPTION	BY	DATE

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .02
.XXX = ± .010
ANGLES = ± 1°

DRAWN	KCO	18JAN00
DESIGNED	RLM	22DEC99
CHECKED		
APPROVED		

INCHES

THIRD ANGLE PROJECTION

DO NOT SCALE THIS DRAWING !!!

INVIVO
RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE:
ASSY: AS169
INDUCTOR, SHIELDED, 3155A

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
4 : 1	1 of 1	C94C858	B

ECN8242

LF20 REV. B

NOTES

1. CUT 10.0 LENGTH OF P/N HP115 1/16 ID TUBING (ITEM 9). CONNECT ONE END TO V1-C. INSTALL & CRIMP P/N HP119 1/8 TUBE CLAMP (ITEM 12) SECURELY IN PLACE ON VALVE PORT. INSTALL P/N HP57 MALE FITTING (ITEM 14) ON THE OTHER END & SNAP P/N HP57A LOCKING NUT (ITEM 15) SECURELY IN PLACE.

2. CUT 6.00 LENGTH OF P/N HP115 1/16 ID TUBING. ATTACH ONE END TO V1-B. INSTALL & CRIMP P/N HP119 1/8 TUBE CLAMP SECURELY IN PLACE ON VALVE PORT.

3. CUT 1.50 LENGTH OF P/N HP115 1/16 ID TUBING. ATTACH ONE END TO V1-A. INSTALL & CRIMP P/N HP119 1/8 TUBE CLAMP SECURELY IN PLACE ON VALVE PORT. INSERT P/N HP117 TUBE CONNECTOR (ITEM 11) INTO END OF TUBE.

4. CUT SIX .80 (± .03) LENGTHS OF P/N HP116 1/8 ID TUBING (ITEM 10). PRE-COAT SENSOR PORT AT U21-F, U20-G AND U20-H WITH P/N M207 LOCTITE PRIMER (ITEM 13). COAT ENTIRE PORT AND WHERE IT ATTACHES TO BASE OF SENSOR. ALSO COAT THE TIPS OF THREE OF THE HP116 LENGTHS OF TUBING. AVOID GETTING PRIMER ON THE I.D. OR THE O.D. NEXT, APPLY P/N M202 LOCTITE ADHESIVE (ITEM 19) TO THE BASE OF THE THREE SENSOR PORTS AND APPROX. HALF WAY UP EACH PORT. ATTACH THE THREE PIECES OF HP116 TUBING IN A TWISTING MOTION TO SPREAD THE ADHESIVE AND FORM A FILLET. PRESS THE TUBES COMPLETELY ONTO THE SENSOR PORTS.

5. ATTACH ONE EACH OF THE OTHER THREE .80 LENGTHS OF HP116 TO ONE END OF P/N HP127 ELBOWS (ITEM 17). BE SURE EACH ELBOW IS FULLY INSERTED INTO THE TUBING.

6. INSERT P/N HP114 REDUCERS (ITEM 8) INTO OTHER END OF EACH TUBE. ORIENTING THE ELBOWS TOWARD THE RIGHT, INSERT ELBOWS FULLY INTO TUBES PREVIOUSLY PLACED ON THE SENSOR PORTS.

   CAUTION: DO NOT USE EXCESSIVE PRESSURE OR TWISTING MOTION AS THIS WILL DAMAGE THE SENSORS.

7. CUT THREE .50 LENGTHS OF P/N HP115 1/16 ID TUBING AND CONNECT THEM TO THE HP114 REDUCERS AT EACH OF THE THREE SENSORS.

8. CONNECT P/N HP113 TEES (ITEM 7) TO EACH OF THESE TUBES, ORIENTED AS SHOWN.

9. CUT .63 LENGTH OF P/N HP115 1/16 ID TUBING. ATTACH ONE END TO TEE AT POINT J AND THE OTHER END TO TEE AT POINT K.

10. CONNECT TUBE FROM V1-B TO TEE AT POINT I, ROUTING BETWEEN U20 & U21.

11. CUT 2.75 LENGTH OF P/N HP115 1/16 ID TUBING AND CONNECT TO TEE AT POINT N.

12. CUT 2.00 LENGTH OF P/N HP115 1/16 ID TUBING. CONNECT FROM TEE AT POINT M TO CORRECTLY ORIENTED P/N HP64 FLOW CONTROL ORIFICE (ITEM 16) AT POINT O.

13. CUT 2.00 LENGTH OF P/N HP115 1/16 ID TUBING. CONNECT TO P/N HP64 FLOW CONTROL ORIFICE (ITEM 16) AT POINT P.

14. CUT 3.50 LENGTH OF P/N HP115 1/16 ID TUBING. CONNECT TO TEE AT POINT L.

15. MOUNT P/N AP49A PUMP ASSEMBLY (ITEM 3) TO P/N AB117A PCA (ITEM 1) CENTERED BESIDE VALVE AS SHOWN ON SHEET 3. ENSURE BOTH PUMP BODY AND BOARD MAKE GOOD CONTACT WITH FOAM TAPE.

16. CONNECT TUBE AT POINT N TO POINT S (FROM PUMP).

17. PLUG PUMP CONNECTOR INTO AB117A-J1.

18. CONDUCT LEAK TEST AS FOLLOWS: TEMPORARILY CONNECT HOSES TO POINTS Q AND R TOGETHER USING P/N HP117 TUBE CONNECTOR. CONNECT 270 ML FIXED VOLUME CONTAINER (9492 OR EQUIVALENT) TO HP57 LUER FITTING ON BOARD ASSEMBLY. CONNECT HAND VACUUM PUMP WITH 0-100 IN-H2O VACUUM GAUGE TO THE PUMP EXHAUST (OUT) PORT. APPLY A 50 IN-H2O VACUUM USING HAND PUMP. RE-PUMP AS NECESSARY TO STABILIZE THE READING AT APPROXIMATELY 50. IF READING WILL NOT STABILIZE AFTER SEVERAL TRIES, VERIFY THE DROP IN VACUUM (STARTING AT APPROXIMATELY 50 IN-H2O) DOES NOT EXCEED 3 IN-H2O IN 10 SECONDS.

19. USING INDELIBLE INK OF CONTRASTING COLOR, PRINT ASSEMBLY NUMBER, REVISION & LOT NUMBER IN SPACE PROVIDED, ON SOLDER SIDE.

20. ROUTE TO INSPECTION & THEN TO TEST FOR PRELIMINARY FUNCTIONAL TEST.

21. PLUG PRE-TESTED P/N AS158 ANALYZER BOARD (ITEM 2) INTO AB117A PCA. SECURE USING THREE EACH P/N HS53 SPACER (ITEM 4), P/N NS57 SCREW (ITEM 5) & P/N N009 NUT (ITEM 6).

22. CONNECT TUBES TO POINT Q AND R ON AS158 ASSEMBLY.

23. REPEAT LEAK TEST.

24. ROUTE TO INSPECTION & THEN TO TEST FOR CALIBRATION. P/N AM62 PROM SET (ITEM 18) TO BE ADDED AT CALIBRATION.

REV.	DESCRIPTION	BY	DATE
C	PER ECN #9026	CHY	3SEP02
B	PER ECN #7729	CHY	17NOV00
A	RELEASED, ECN #7512	KCO	5JAN00

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .06
.XXX = ± ——
ANGLES = ± ——

DRAWN	KCO	4JAN00
DESIGNED	RLM	21DEC99
CHECKED		
APPROVED		

INCHES

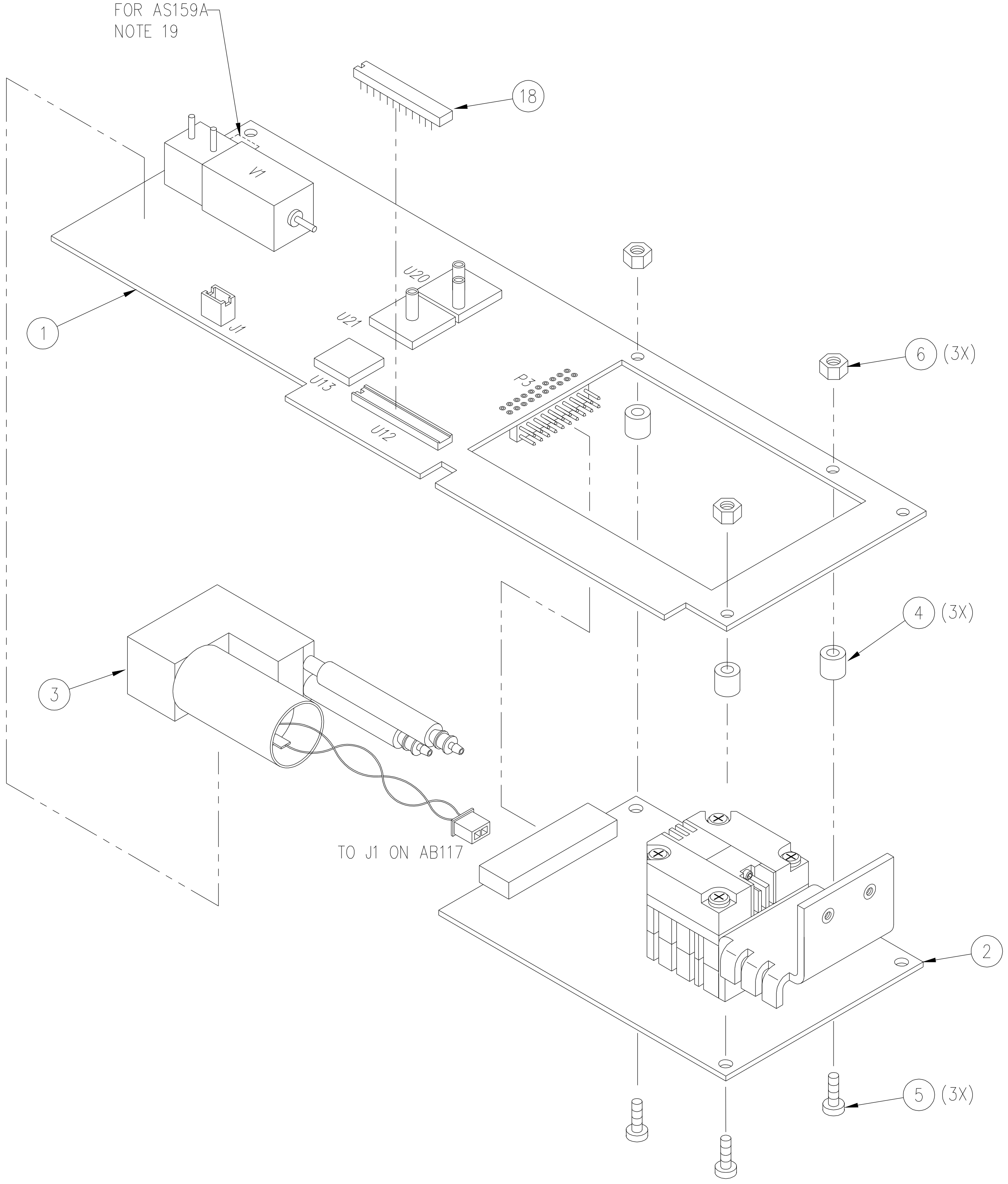
THIRD ANGLE PROJECTION

DO NOT SCALE THIS DRAWING !!!

INVIVO
RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE: ASSEMBLY: AS159A
ASSY, ANESTH. AGENT ANALYZER MODULE

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
1 : 1	1 of 3	C94C859	C



ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
19	M202	A/R	ADHESIVE, (BLACK) LOCTITE 410
18	AM62	1	PROM SET, PNEU. CONT. AGENT ID, 3500
17	HP127	3	ELBOW, 1/8 BARB, PVDF
16	HP64	1	ORIFICE, FLOW CONTROL, .012
15	HP57A	1	LOCKING NUT, NYLON
14	HP57	1	FITTING, MALE, LOCKING LUER, 1/16 BARB
13	M207	A/R	PRIMER, LOCTITE 770
12	HP119	3	TUBE CLAMP, 1/8, ONE EAR
11	HP117	1	FITTING, 1/16 TUBE CONNECTOR, PVDF
10	HP116	4.80	TUBING, VITON, 1/8 ID X 1/4 OD
9	HP115	30.12	TUBING, VITON, 1/16 ID X 1/8 OD
8	HP114	3	FITTING, 1/8 X 1/16 REDUCER CONN. PVDF
7	HP113	3	FITTING, 1/16 TEE TUBE CONNECTOR, PVDF
6	N009	3	NUT, HEX, #4-40, NY
5	NS57	3	SCREW, #4-40 X 1/2 LG, PHMS-NY
4	HS53	3	SPACER, #4 X .188 O.D. X .238 LG. - NY
3	AP49A	1	ASSY, PUMP, AGENTS, 3155A
2	AS158	1	ASSY, ANESTH AGENT ANALYZER BD
1	AB117A	1	PCA, AGENTS PNEUMATICS CNTRLR., 3155A

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .06
.XXX = ± ——
ANGLES = ± ——

DRAWN	KCO	4JAN00
DESIGNED	RLM	21DEC99
CHECKED		
APPROVED		

INVIVO
RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

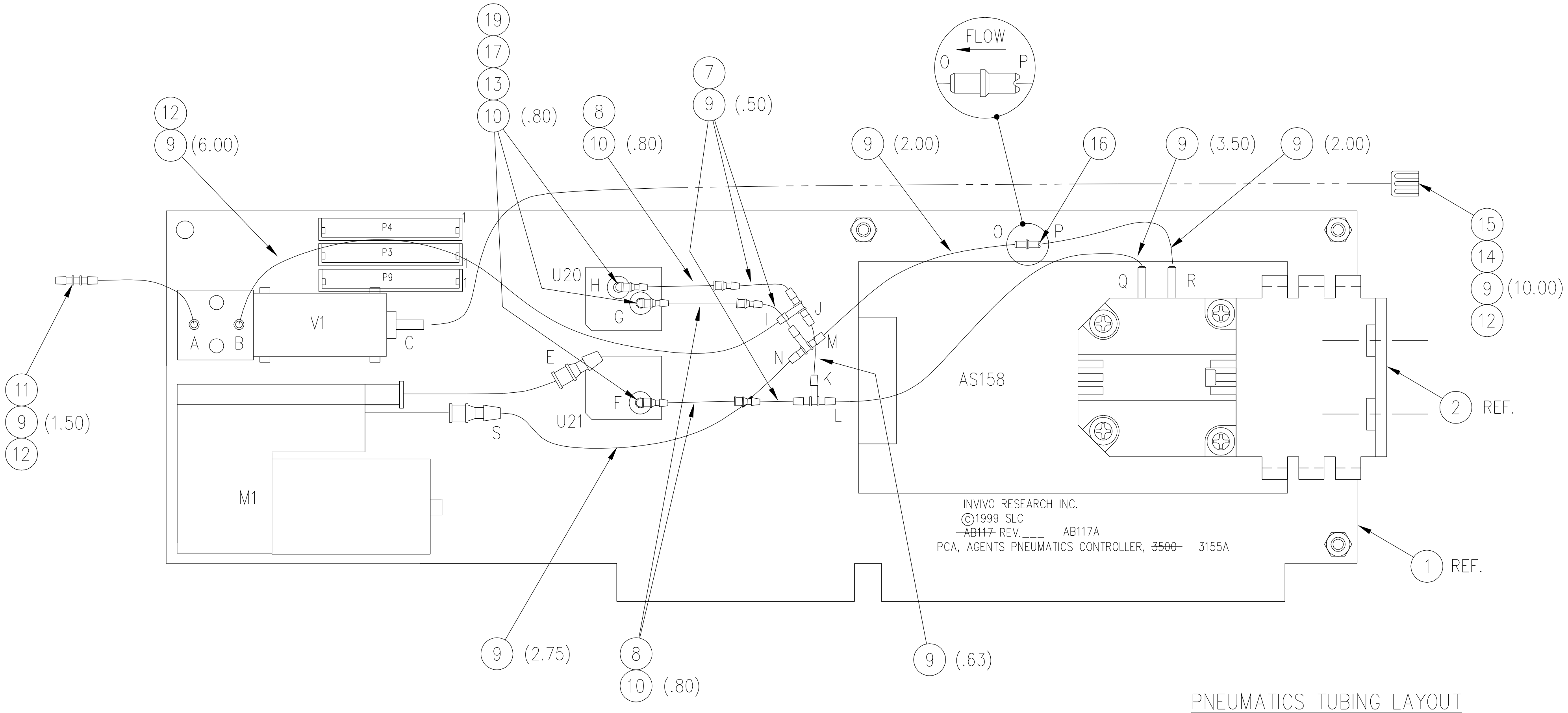
TITLE:
ASSEMBLY: AS159A
ASSY, ANESTH. AGENT ANALYZER MODULE

INCHES
THIRD ANGLE PROJECTION
DO NOT SCALE THIS DRAWING !!!

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
1 : 1	2 of 3	C94C859	C

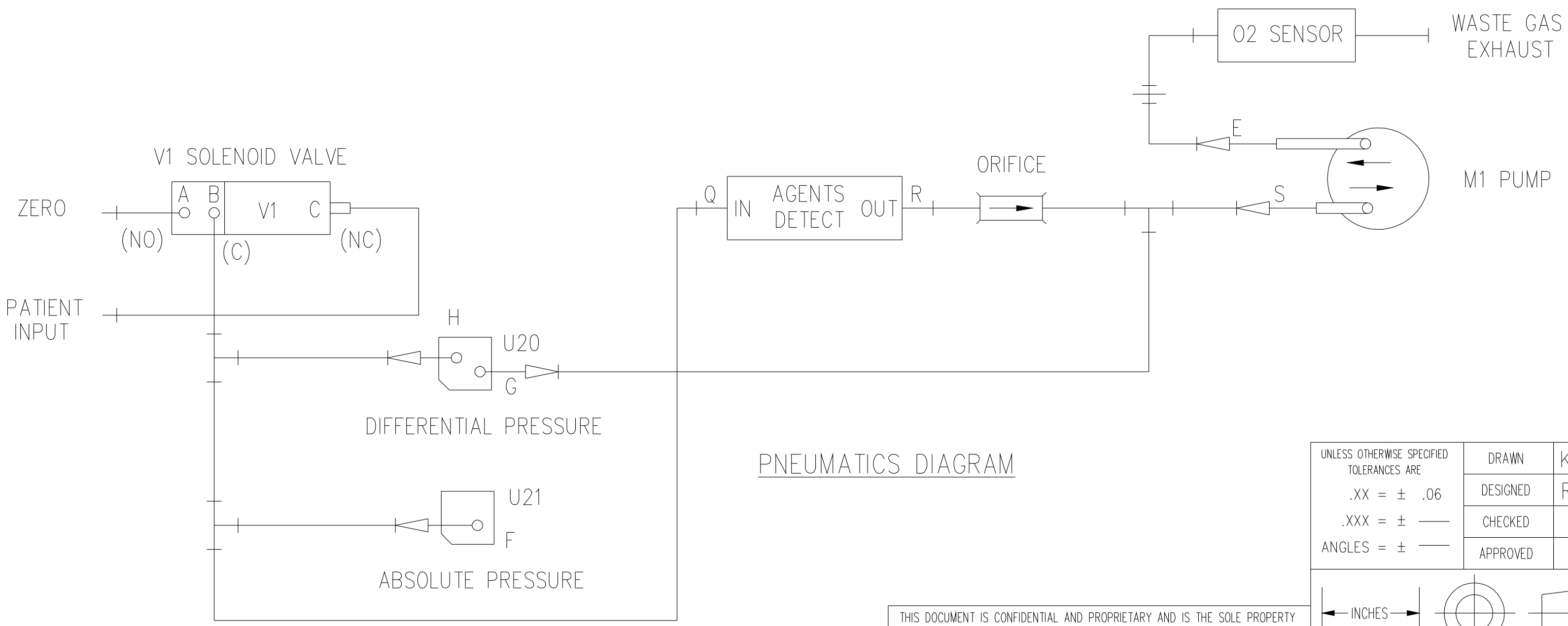
ECN8242

LF20 REV. B


19
17
13
10 (.80)
8
10 (.80)
7
9 (.50)
12
9 (6.00)
FLOW
O
P
9 (2.00)
16
9 (3.50)
9 (2.00)
P4
P3
P9
1
1
U20
H
G
J
I
N
M
K
L
E
F
U21
S
V1
A
B
C
M1
O
P
Q
R
AS158
INVIVO RESEARCH INC.
©1999 SLC
~~AB117~~ REV.___ AB117A
PCA, AGENTS PNEUMATICS CONTROLLER, ~~3500~~ 3155A
15
14
9 (10.00)
12
2 REF.
1 REF.
11
9 (1.50)
12
9 (2.75)
8
10 (.80)
9 (.63)

PNEUMATICS TUBING LAYOUT

CAD SCALE 1.5:1


O2 SENSOR
WASTE GAS EXHAUST
E
M1 PUMP
S
ORIFICE
Q
IN
AGENTS DETECT
OUT
R
V1 SOLENOID VALVE
ZERO
A
B
V1
C
(NO)
(C)
(NC)
PATIENT INPUT
H
U20
G
DIFFERENTIAL PRESSURE
U21
F
ABSOLUTE PRESSURE

PNEUMATICS DIAGRAM

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE	DRAWN	KCO	4JAN00
.XX = ± .06	DESIGNED	RLM	21DEC99
.XXX = ± ——	CHECKED		
ANGLES = ± ——	APPROVED		

INCHES

THIRD ANGLE PROJECTION

DO NOT SCALE THIS DRAWING !!!

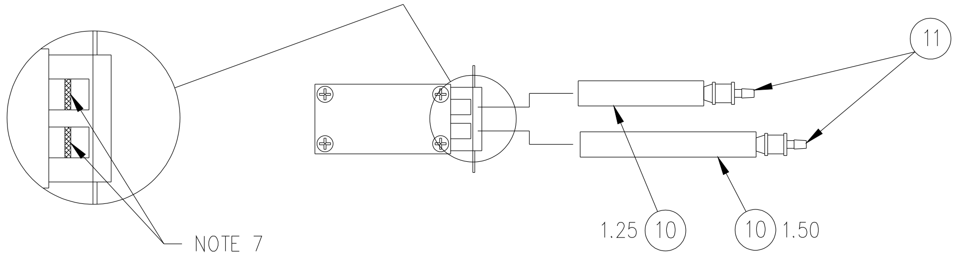
INVIVO
RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

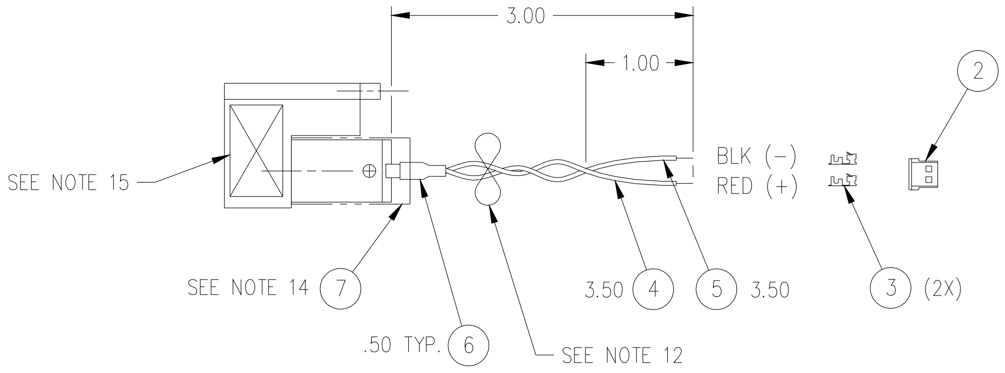
TITLE:
ASSEMBLY: AS159A
ASSY, ANESTH. AGENT ANALYZER MODULE

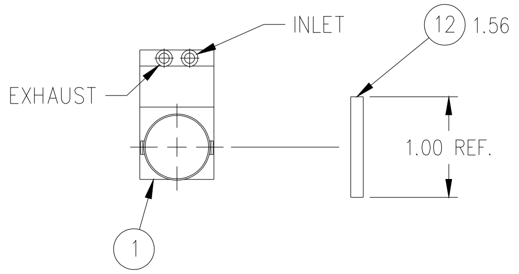
CAD SCALE:	SHEET:	DWG. NO.:	REV.:
1 : 1	3 of 3	C94C859	C

ECN8242

LF20 REV. B







NOTES:

1. CUT WIRES (ITEMS 4 & 5) TO 3.50 LENGTH EACH.
2. STRIP WIRES ON ONE END PER AI046 FOR P/N PT28 CONTACT (ITEM 3).
3. STRIP & TIN OTHER END OF EACH WIRE .250.
4. CRIMP P/N PT28 CONTACTS ONTO UNTINNED END OF EACH WIRE.
5. ROUTE TO INSPECTION.
6. J-HOOK TINNED END OF WIRES AND SOLDER TO P/N HP111 PUMP MOTOR TERMINALS (ITEM 1), ENSURING BLACK TO NEGATIVE & RED TO POSITIVE.
7. APPLY A SMALL AMOUNT OF P/N M202 ADHESIVE TO P/N HP111 PUMP AS SHOWN IN ENLARGED DETAIL.
8. CUT 1.25 LENGTH OF P/N HP138 1/8 ID TUBING. INSERT P/N HP114 REDUCER (ITEM 11) INTO ONE END AND CONNECT TO P/N HP111 PUMP INLET PORT AS SHOWN.
9. CUT 1.50 LENGTH OF P/N HP138 1/8 ID TUBING. INSERT P/N HP114 REDUCER (ITEM 11) INTO ONE END AND CONNECT TO P/N HP111 PUMP EXHAUST PORT AS SHOWN.
10. ROUTE TO INSPECTION.
11. SLIDE .50 PIECE OF P/N WT01 HEAT SHRINK (ITEM 6) ONTO WIRES & COMPLETELY OVER PUMP MOTOR TERMINALS AND SHRINK IN PLACE.
12. TWIST WIRES TOGETHER APPROXIMATELY TWO TURNS PER INCH.
13. INSERT TERMINATED WIRES INTO P/N PA195 HOUSING (ITEM 2).
14. SLIP P/N HM50CH SHIELD (ITEM 7) OVER WIRES AND PUMP MOTOR AS SHOWN, AND SECURE IN PLACE WITH P/N M008A RTV (ITEM 8).
15. USING A PERMANENT MARKER OF CONTRASTING COLOR, PRINT ASSEMBLY NUMBER, REVISION, LOT NUMBER & ASSEMBLER INITIALS IN AREA SHOWN.
16. PRESSURE TEST PUMP TO 50/70 mm-Hg MAX. NO MORE THAN 4 mm-Hg DROP IN 10 SECONDS.
17. ROUTE TO INSPECTION.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
12	M000D	1.56	TAPE OPEN CL. FM., DS, .13 THK. x 1.0 W
11	HP114	2	FTG, 1/8 x 1/16 REDUCER CONN., PVDF
10	HP138	2.75	TUBING, VITON, 1/8 I.D. x 3/16 O.D.
9	M202	REF.	ADHESIVE, (BLACK) LOCTITE 410
8	M008A	REF.	ADHESIVE,/SEALANT, RTV, CLEAR, 732
7	HM50CH	1	SHIELD, PUMP, 3155A
6	WT01	1.00	HEAT SHRINK TUBING, BLACK, 1/8 ID
5	W047	3.50	WIRE, 26 GA, 19 X 38, BLK, UL-1429
4	W038	3.50	WIRE, 26 GA, 19 X 38, RED, UL-1429
3	PT28	2	CONTACT, CRIMP SOCKET, 22-28 AWG
2	PA195	1	CONN, 2P, SR, HSG, ST. .098 CTRS.
1	HP111	1	MICRO-PUMP, VITON, 12 VDC

REV.	DESCRIPTION	BY	DATE
C	PER ECN #9121	SR	13NOV02
B	PER ECN #8287	CHY	17MAY01
A	RELEASED, ECN #7512	KCO	19AUG98

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UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
.XX = ± .50
.XXX = ± .250
ANGLES = ± 1°

DRAWN	KCO	4JAN00
DESIGNED	RLM	20DEC99
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
DO NOT SCALE THIS DRAWING !!!

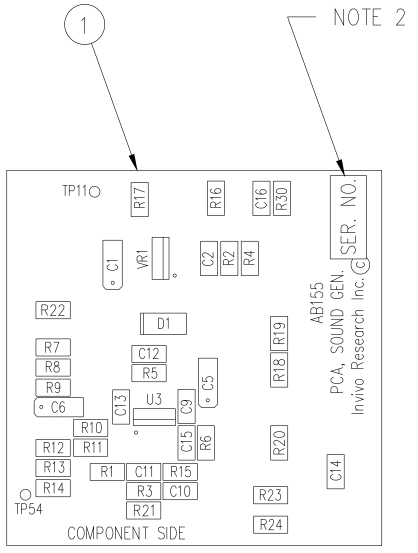
Invivo Research Inc.
PRECISION BIOMEDICAL INSTRUMENTS
Subsidiary of Invivo Corporation
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE:
ASSEMBLY: AP49A
ASSEMBLY, PUMP, AGENTS – 3155A

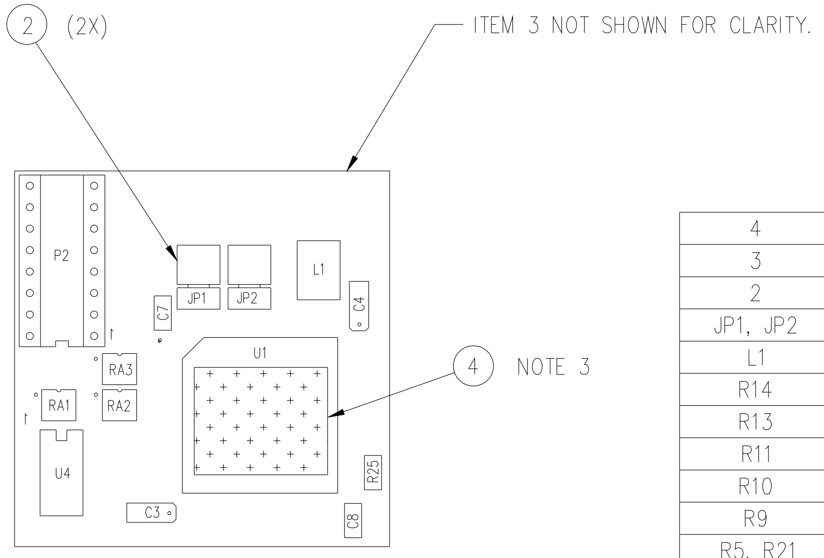
CAD SCALE:	SHEET:	DWG. NO.:	REV.:
1 : 1	1 of 1	C94C862	C

ECN5877

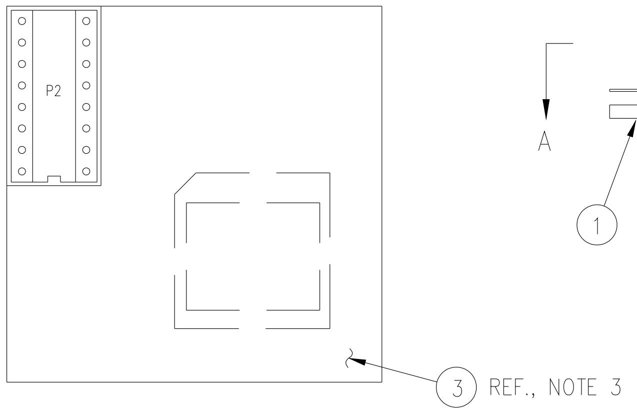
LF20 REV. A


1
NOTE 2
TP11
R17
R16
C16
R30
SER. NO.
C1
VR1
C2
R2
R4
R22
D1
AB155
PCA, SOUND GEN.
Invivo Research Inc. ©
R7
R8
R9
C6
C12
R5
C13
U3
C9
C5
R19
R18
R10
R12
R11
C15
R6
R20
R13
R1
C11
R15
C14
R14
R3
C10
TP54
R21
R23
R24
COMPONENT SIDE

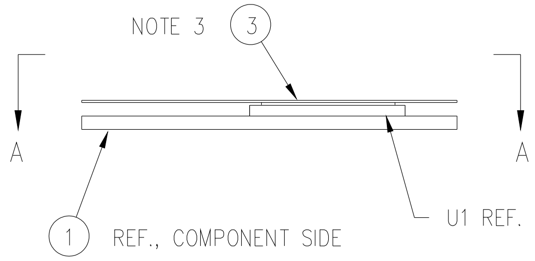
COMPONENT SIDE


2
(2X)
ITEM 3 NOT SHOWN FOR CLARITY.
P2
JP1
JP2
L1
C7
C4
U1
4
NOTE 3
RA3
RA1
RA2
U4
R25
C3
C8

SOLDER SIDE


P2
3
REF., NOTE 3

VIEW A-A


NOTE 3
3
A
A
1
REF., COMPONENT SIDE
U1 REF.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
4	M000	.75	TAPE, OPN. CL. FOAM, DS, .06 THK. x .38 W
3	HI62	1	INSULATOR, SOUND GENERATOR MOD PCA
2	PA66	2	SHUNT, 2 POSITION, .10 CTRS.
JP1, JP2	PA41	2	HEADER, 2P, SR, RA, .10 CTRS.
L1	TX01	1	INDUCTOR, 100UH, 100MA, SMT
R14	RX356	1	RES., 1.3MEG, 1%, .10W, 100PPM, 0805
R13	RX355	1	RES., 649K, 1%, .10W, 100PPM, 0805
R11	RX354	1	RES., 162K, 1%, .10W, 100PPM, 0805
R10	RX353	1	RES., 80.6K, 1%, .10W, 100PPM, 0805
R9	RX352	1	RES., 40.2K, 1%, .10W, 100PPM, 0805
R5, R21	RX351	2	RES., 4.99K, 1%, .10W, 100PPM, 0805
R2	RX350	1	RES., 16.9K, 1%, .10W, 100PPM, 0805
R6	RX335	1	RES., 16.5K, 1%, .10W, 100PPM, 0805
R12	RX322	1	RES., 324K, 1%, .10W, 100PPM, 0805
R1	RX290	1	RES., 133K, 1%, .10W, 100PPM, 0805
R4,7,16,17, 18,20,22	RX250	7	RES., 10K, 1%, .10W, 100PPM, 0805
R15,19,23, 24,25,30	RX243	6	RES., 1K, 1%, .10W, 100PPM, 0805
R8	RX236	1	RES., 20K, 1%, .10W, 100PPM, 0805
R3	RX232	1	RES., 200K, 1%, .10W, 100PPM, 0805
RA1-3	RS20	3	RES., ARRAY, 100 OHM
P2	PA430	1	HEADER, DUAL INLINE, ADAPTER, DIP-16
VR1	IRX03	1	IC, ADJ., MICROPWR, VOLT. REG., 2951
U3	ILX22	1	IC, OP-AMP, DUAL LO-P, LM6142AIM
U1	ICX90	1	IC, PLD, EP1K30, 144PIN, TQFP
U4	AM68	1	IC, CONFIGURATION DEVICE, EPC1, DIP-8
D1	DDX01	1	DIODE, SIGNAL, LEADLESS, MELF, 500MW
C1, 3-6	CXT19	5	CAP., 4.7UF, 10%, 16V, TANT., 3216
C16	CX82	1	CAP., 1000PF, 5%, 50V, X7R, 0805
C12	CX81	1	CAP., 22PF, 5%, 50V, X7R, 0805
C15	CX69	1	CAP., 100PF, 10%, 50V, COG, 0805
C2	CX59	1	CAP., .01UF, 10%, 50V, X7R, 0805
C7-11,13,14	CX51	7	CAP., .1UF, 10%, 50V, X7R, 0805
1	B209	1	PCB, SOUND GENERATOR MODULE REV-B

NOTES

1. WORKMANSHIP TO CONFORM TO IPC CLASS II REQUIREMENTS.
2. BOARD REQUIRES SERIALIZED LABELING WITH THE FOLLOWING INFORMATION:
   UNIQUE SERIAL NO., ASSEMBLY P/N & CURRENT REV. LEVEL.
   PLACE SERIAL NUMBER LABEL IN THIS AREA, ORIENT AS SHOWN.
3. APPLY A .75 LENGTH OF P/N M000 DOUBLE SIDED FOAM TAPE (ITEM 4) TO P/N ICX90 IC (REF. DES. U1). ATTACH P/N HI62 FIBERGLASS INSULATOR (ITEM 3) TO THE TAPE ON U1 AS SHOWN IN VIEW A-A.

REV.	DESCRIPTION	BY	DATE
D	PER ECN #8304	CHY	19APR01
C	PER ECN #8279	CHY	29MAR01
B	PER ECN #8208	JRS	9FEB01
A	RELEASE PER ECN #7921	ALH	23JAN01

UNLESS OTHERWISE SPECIFIED
TOLERANCES ARE
.XX = ±
.XXX = ±
ANGLES = ±

DRAWN	ALH	14AUG00
DESIGNED	SF	21JUL00
CHECKED		
APPROVED		

INCHES
THIRD ANGLE PROJECTION
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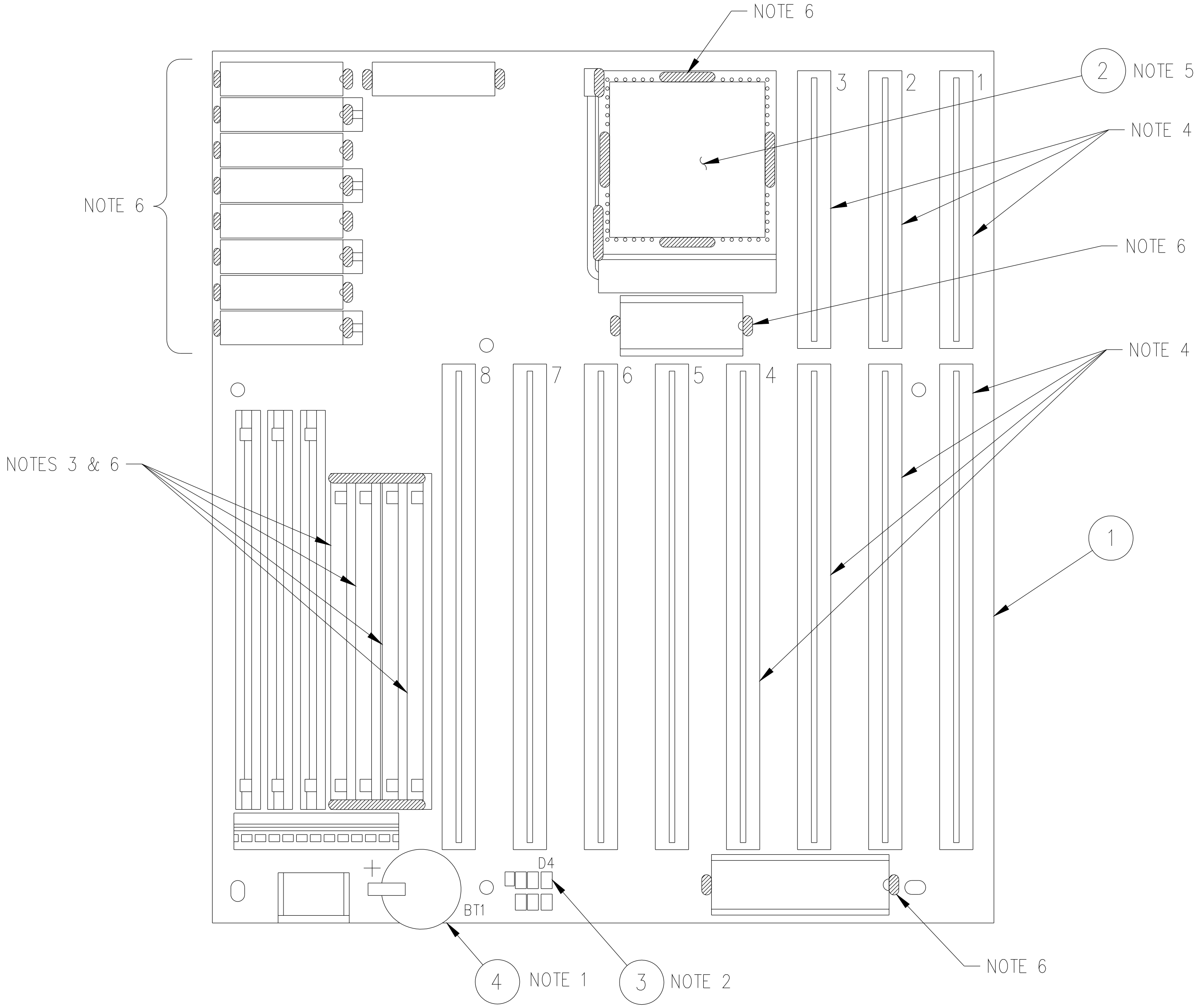
PRECISION BIOMEDICAL INSTRUMENTS
Subsidiary of Invivo Corporation
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE:
ASSEMBLY: AB155
PCA, SOUND GENERATOR MODULE

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
1 : 1	1 of 1	C94C870	D

ECN5877

LF20 REV. A



NOTES

1. REMOVE BATTERY AND/OR BATTERY HOLDER FROM REF. DES. BT1. OBSERVING PROPER POLARITY, SOLDER P/N HB12 BATTERY (ITEM 4) IN PLACE. PLACE SMALL AMOUNT OF P/N M008A RTV (ITEM 6) UNDER BATTERY ENSURING THE RTV CONTACTS BOTH THE BATTERY AND THE BOARD.
2. REMOVE DIODE FROM REF. DES. D4 AND REPLACE WITH P/N DDX11 DIODE (ITEM 3).
3. REMOVE 30 PIN RAM SIMMS FROM SOCKETS (4 PLACES). APPLY TWO COATS OF P/N M216 ANTI-OXIDIZER (ITEM 5) TO 30 PIN RAM SIMM SOCKETS AND TO RAM SIMMS PCA EDGE FINGERS. THEN REPLACE 30 PIN RAM SIMMS.
4. APPLY TWO COATS OF P/N M216 ANTI-OXIDIZER (ITEM 5) TO CONNECTORS AS INDICATED.
5. OBSERVING PROPER POLARITY, INSERT P/N IC98 MP (ITEM 2) INTO SOCKET.
6. APPLY P/N M008A RTV (ITEM 6) APPROX. AS SHOWN TO ALL AREAS INDICATED BY ▨. BE SURE RTV CONTACTS BOTH SOCKET OR CONNECTOR AND INSERTED COMPONENT.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
6	M008A	A/R	ADHESIVE/SEALANT, RTV, CLEAR, 732
5	M216	A/R	ANTI-OXIDIZER, ENVI-RO-TECH PC
4	HB12	1	BATTERY, 3V, LITHIUM, PCB MOUNT, 2 PRONG
3	DDX11	1	DIODE, SCHOTTKY, BARRIER, 50V, BAS86
2	IC98	1	I.C., 168P-PGA, 486DX2/66+MHz MP
1	AB88A	1	PCA, PC/AT MOTHERBOARD LESS PROCESSOR

REV.	DESCRIPTION	BY	DATE
A	RELEASED, ECN #8082	CHY	1DEC00

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UNLESS OTHERWISE SPECIFIED TOLERANCES ARE
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.XXX = ± .010
ANGLES = ± 1°

DRAWN	CHY	1DEC00
DESIGNED	MC	1DEC00
CHECKED		
APPROVED		

INCHES

THIRD ANGLE PROJECTION

DO NOT SCALE THIS DRAWING !!!

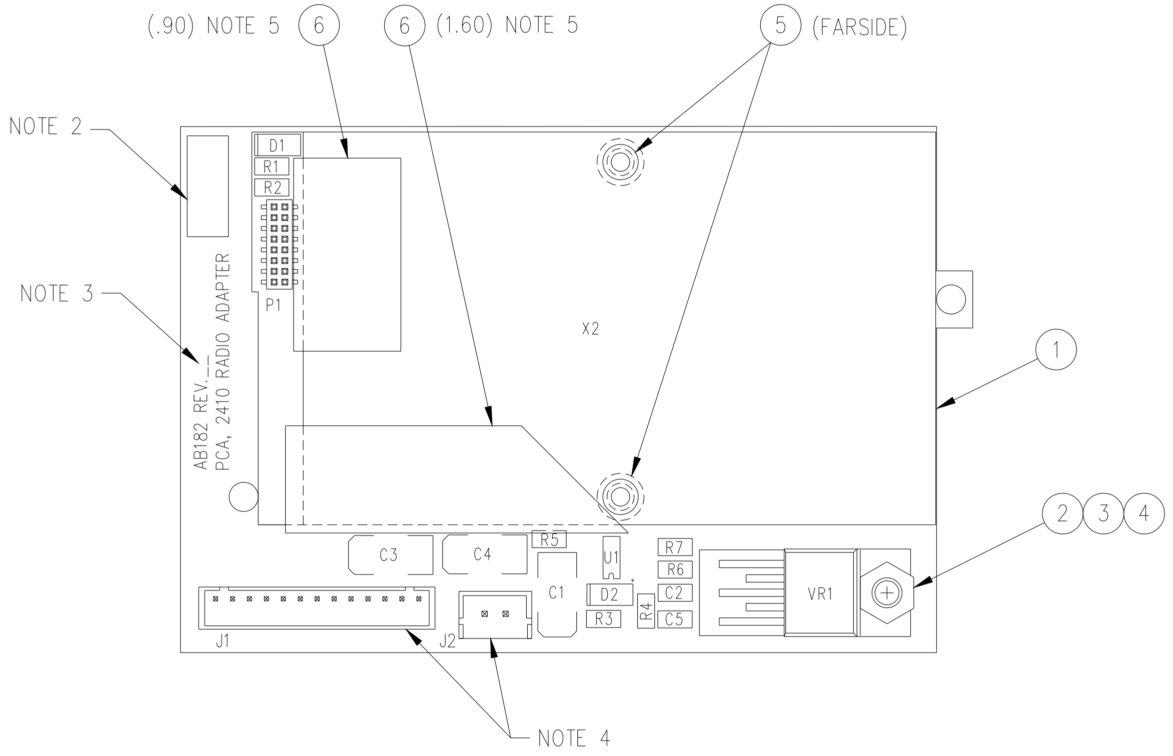
Invivo Research Inc.
PRECISION BIOMEDICAL INSTRUMENTS
Subsidiary of Invivo Corporation
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE:
ASSEMBLY: AB88
PCA, PC/AT MOTHERBOARD w/MPRCSR.

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
1 : 1	1 of 1	C94C897	A

ECN5877

LF20 REV. A



NOTES

1. WORKMANSHIP TO CONFORM TO IPC CLASS II REQUIREMENTS.
2. BOARD REQUIRES SERIALIZED LABELING WITH THE FOLLOWING INFORMATION: UNIQUE SERIAL NO., ASSEMBLY P/N AND CURRENT REV. LEVEL.
3. USING INDELIBLE INK IN CONTRASTING COLOR, PLACE CURRENT ASSEMBLY REVISION IN SPACE PROVIDED.
4. TRIM LEADS FLUSH ON SOLDER SIDE.
5. CUT 2 PIECES OF P/N M088A KAPTON TAPE (ITEM 4) TO LENGTH INDICATED. TRIM THE LONGER PIECE AT ANGLE AS SHOWN. ORIENT AND PLACE THE TAPE AS SHOWN, ENSURING COMPLETE COVERAGE OF TRACE(S) THAT ARE VERY NEAR OR INSIDE THE RADIO SILKSCREEN.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
6	M088A	2.50	TAPE, KAPTON, .004 THK., x 1/2" W ROLL
5	NC06	2	NUT, CAPTIVE, #2-56, KF2-256
4	N002	1	NUT, HEX, #4-40, ZINC
3	NW09	1	LOCKWASHER, INT. TOOTH, #4, SS
2	NS04	1	SCR., #4-40 x 1/4 LG., PHMS-XR, ZN
R7	RX315	1	RES., 681 OHM, 1%, .1W, 100 PPM, 0805
R6	RX221	1	RES., 150 OHM, 5%, .10W, 150 PPM, 0805
R5	RX243	1	RES., 1K, 1%, .1W, 100 PPM, 0805
R4	RX222	1	RS., 2K, 5%, .1W, 200 PPM, 0805
R3	RX375	1	RES., 49.9K, 1%, .10W, 100 PPM, 0805
R2	RX236	1	RES., 20K, 1%, .10W, 100 PPM, 0805
R1	RX250	1	RES., 10K, 1%, .1W, 100 PPM, 0805
J2	PA348	1	CONN, 2P, SR, HDR, ST, SHRD, .098 CTRS
J1	PA346	1	CONN, 13P, SR, HDR, ST, SHRD, .079 CTRS
VR1	IR55	1	REGULATOR, ADJUST. LOW -DRIFT, LM2941C
U1	ICX99	1	IC, UNDER VOLTAGE SENSOR
D1,2	DDX05	2	DIODE, SCHOTTKY, SM. SIGNAL, MINIMELF
C1,3,4	CXT08	3	CAP, 22UF, 20%, 16V, 7343, TANT.
C2,5	CX51	2	CAP, .1UF, 10%, 50V, X7R, 0805
P1	PA464	1	CONN., 16P, DR, LP, SCKT, .050 CTRS.
1	B238	1	PCB, 2410 RADIO ADAPTER REV. A

REV.	DESCRIPTION	BY	DATE
E	PER ECN #8674	CHY	27FEB02

REV.	DESCRIPTION	BY	DATE
D	PER ECN #8602	CHY	22JAN02
C	PER ECN #8579	CHY	10JAN02
B	PER ECN #8575	CHY	14DEC01
A	RELEASED, ECN #8394	CHY	23OCT01

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ANGLES = ± 1°

DRAWN	CHY	23OCT01
DESIGNED	SLC	23OCT01
CHECKED		
APPROVED		

INCHES

THIRD ANGLE PROJECTION

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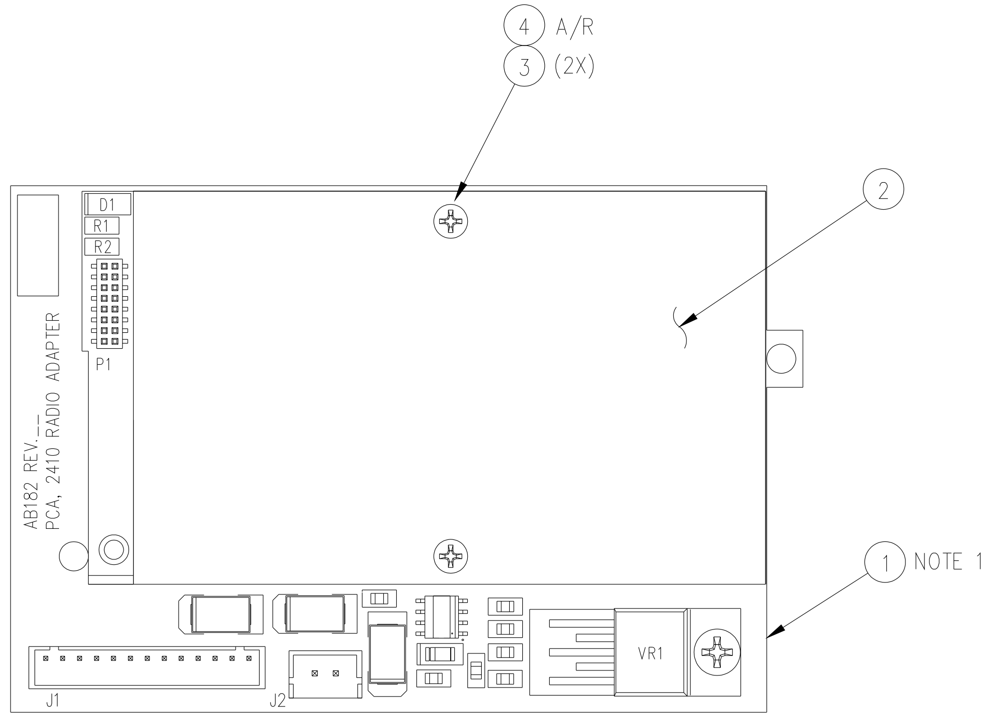
INVIVO
RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE:
ASSEMBLY: AB182
PCA, 2410 RADIO ADAPTER

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
2 :1	1 of 1	C94C922	E

ECN8242

LF20 REV. B



NOTES

1. P/N AB182 PCA (ITEM 1) MUST BE MOUNTED IN CERTAIN UNITS BEFORE P/N HE97 TRANSCEIVER IS SECURED USING TWO P/N NS148N SCREWS AND P/N M050 LOCTITE (ITEM 4). REFER TO ASSEMBLY DRAWING FOR UNIT WHERE AB182B IS TO BE USED.

ITEM / REF. DES.	PART NO.	QTY.	DESCRIPTION
4	M050	A/R	ADHESIVE, LOCTITE 425, BLUE ASSURE
3	NS148N	2	SCR., #2-56 x 7/16 LG., PHMS-XR, SS, NM
2	HE97	1	TRANSCEIVER, 2.4 GHZ, 460 KBPS
1	AB182	1	PCA, 2410 RADIO ADAPTER

REV.	DESCRIPTION	BY	DATE
B	PER ECN #8602	CHY	22JAN02
A	RELEASED, ECN #8394	CHY	23OCT01

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DRAWN	CHY	23OCT01
DESIGNED	SLC	23OCT01
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INVIVO
RESEARCH, INC.
12601 RESEARCH PARKWAY., ORLANDO, FL 32826

TITLE:
ASSEMBLY: AB182B
ASSEMBLY, 2410 RADIO

CAD SCALE:	SHEET:	DWG. NO.:	REV.:
1 : 1	1 of 1	C94C926	B

ECN8242

LF20 REV. B